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THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

Vol. 13

No. XXVI.—Feb. 1834.

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TO READERS AND CORRESPONDENTS.

Communications have been received from Professor Horner, Dr. Jackson, Dr. Ticknor, Dr. Hull, and Dr. Dudley.

Several articles prepared for this No. have been omitted for want of space, though we have extended the No. twelve pages beyond our limits.

The following works have been received:—

The Dispensatory of the United States of America. By George B. Wood, M. D. &c. and Franklin Bache, M. D. &c. Second edition, enlarged and carefully revised. Philadelphia, 1834, Gregg & Elliot. (From the publishers.)

Illustrations of Pulmonary Consumption; its Anatomical Characters, Causes, Symptoms and Treatment. With twelve plates, drawn and coloured from nature. By Samuel George Morton, M. D. Physician to the Philadelphia Almshouse Hospital; Lecturer on Anatomy, &c. &c. &c. Philadelphia, 1834. (From the author.)

Experiments and Observations on the Gastric juice, and the Physiology of Digestion. By William Beaumont, M. D. Surgeon United States' Army. Plattsburgh, 1833. (From the author.)

Medico-Chirurgical Transactions, Published by the Medical and Chirurgical Society of London. Vol. XVIII. London, 1833. (From the society.)

Recueil de Mémoires sur le Typhus Nautique, ou Fièvre Jaune, Provenant principalement de l'Infection des Batimens Négriers. Par M. Audouard, D. M. M. Envoyé à Barcelone en 1821, et au Port du Passage en 1823, par S. E. le Ministre de la Guerre, à l'occasion de la Fièvre Jaune, &c. Paris, 1825–26. (From the author.)

An Essay to prove the Contagious Character of Malignant Cholera; with Brief Instructions for its Prevention and Cure. By Bernard M. Byrne, M. D. Baltimore, 1833. Carey, Hart & Co. (From the publishers.)

The Infirmities of Genius, illustrated by referring the Anomalies in the Literary Character to the Habits and Constitutional Peculiarities of Men of Genius. By R. R. Madden, M. D. 2 vols. Carey, Lea & Blanchard, 1833. (From the publishers.)

Catalogue of the Trustees, Faculty, and Students of the Berkshire Medical Institution, and of the Alumni and Honorary Graduates, since its incorporation in 1823. Pittsfield, Mass. 1833. (From Professor H. H. Childs, M. D.)

A Treatise on the Venereal Disease and its Varieties. By William Wallace, M. R. I. A. &c. London, 1833. (From the author.)

The Hand, its Mechanism and Vital Endowments as Evincing Design. By Sir Charles Bell, K. G. H. F. R. S. L. & E. Philadelphia, Carey, Lea & Blanchard, 1833. (From the publishers.)

Introductory Lecture, delivered on the 11th of November, 1833. By Samuel Henry Dickson, M. D. Professor of the Institutes and Practice of Medicine in

the Medical College of South Carolina. Published by the students. Charleston. 1833. (From the author.)

An Introductory Lecture delivered to the Medical Class of the University of Maryland, on Friday, October 31st, 1833. By Robley Dunglison, M. D. Professor of Materia Medica, Therapeutics, Hygiene, and Medical Jurisprudence in the University of Maryland. Published by the Medical Class. Baltimore, 1833. (From the author.)

Lettre de M. Souberbielle, a l'Academie des Sciences, sur la Statistique des Affections Calculeuses, presenté par M. Civiale, dans la seance du 26 Aout, 1833. (From the author.)

A Treatise on Lesser Surgery, or the Minor Operations. By Bourgery, D. M. P. Translated from the French, with Notes and an Appendix. By William C. Roberts and James B. Kissam. New York, 1834. (From the translators.)

An Address Introductory to a Course of Lectures delivered in the Hall of the Medical College of South Carolina, before the Trustees and Faculty, the Students of Medicine, and the Public generally, at the opening of the Session of 1833-4. By Gunning S. Bedford, M. D. Professor of Obstetric Medicine and the Diseases of Women and Children. Published at the request of the Trustees and the Students of Medicine. Charleston, 1833. (From the author.)

A Catalogue of the Officers and Students of Dartmouth College. October, 1833. (From Professor Mussey.)

A Catalogue of the Officers and Students of Transylvania University. Lexington, Kentucky. January, 1834. (From Professor C. W. Short.)

The Dissector's Guide, or Student's Companion. Illustrated by numerous wood cuts, clearly exhibiting and explaining the dissection of every part of the human body. By Edward W. Tuson, F. L. S. &c. Lecturer on Anatomy and Physiology at the Little-Windmill-street school. First American edition, with additions. By Winslow Lewis, Jr. M. D. Demonstrator of Anatomy to the Medical School of Harvard University. Allen and Ticknor, Boston, 1833. (From the publishers.)

Annales de la Médécine Physiologique. November, December, 1832, January, February, March, April, May, 1833. (In exchange.)

Archives Générales de Médécine; Journal Complementaire des Sciences Médicale. January to August, 1833. (In exchange.)

Transactions Médicales; Journal de Médecine Pratique. January to August, 1833. (In exchange.)

Journal Universel et Hebdomadaire de Médecine et de Chirurgie Pratiques et des Institutions Médicales. March to September, 1833. (In exchange.)

Journal de Chimie Médicale de Pharmacie et de Toxicologie. January to September, 1833. (In exchange.)

Journal de Pharmacie et des Sciences accessoires. January to September, 1833. (In exchange.)

Revue Médicale Française et Etrangére, Journal de Clinique de l'Hotel-Dieu,

de la Charité et des grands Hôpitaux de Paris. January to August, 1833. (In exchange.)

Journal des Connaissances Médico-Chirurgicales, September, 1833. (In exchange.)

Gazette Médicale de Paris, January to September, 1833. (In exchange.)

La Lancette Française Gazette des Hopiteaux, civils et militaires. January to October, 1833. (In exchange.)

Heidelberger Klinische Annalen. Nos. 1, 2, 3 and 4, for 1832. (In exchange.)

Litterarische Annalen der Gesammten Heilkunde herausgegeben von Dr. J. F. C. Hecker. For September, October, November, December, 1832, and January, 1833. (In exchange.)

The London Medical and Surgical Journal, for July, August, September and October, 1833. (In exchange.)

London Medical Gazette, for August, September, October, and November. (In exchange.)

Glasgow Medical Journal, Vol. I. No. 2, Vols. IV. and V. and Nos. 1, 2, and 3. Vol. I. N. S. (In exchange.)

The Edinburgh Medical and Surgical Journal, for October, 1833. (In exchange.)

The Medico-Chirurgical Review, for October, 1833. (In exchange.)

The Medical Magazine, conducted by A. L. Peirson, J. B. Flint, and E. Bartlett. For October and November, 1833. (In exchange.)

The Boston Medical and Surgical Journal, Vol. IX. Nos. 11 to 22, inclusive. (In exchange.)

The Western Journal of the Medical and Physical Sciences, for October, 1833. (In exchange.)

The Baltimore Medical and Surgical Journal and Review, for January, 1834. (In exchange.)

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "Carey, Lea & Blanchard, Philadelphia, for the Editor of the American Journal of the Medical Sciences."

All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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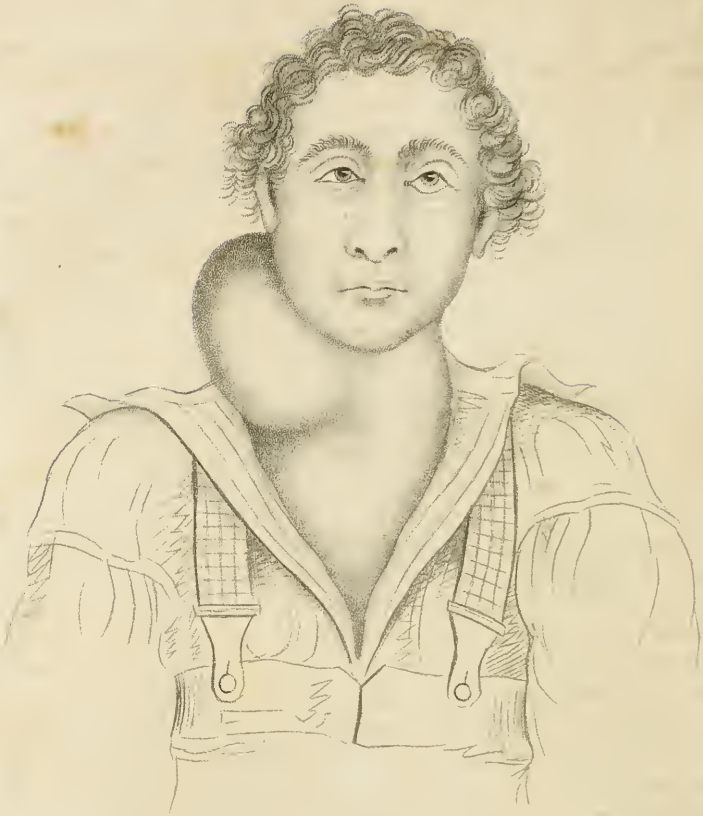
ERRATA.

Page 305, line 17 from bottom, for "*left*" read "right."



Gibsons case of Tumour of the Neck

Engraved by J Bruyton from a w. Adv. Wood

THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

ART. I. *Case of Extirpation of a Tumour of the Neck, in which the Carotid Artery and Internal Jugular Vein were Tied—with Remarks.* By WILLIAM GIBSON, M. D. Professor of Surgery in the University of Pennsylvania. [With a plate.]

GEORGE WASHINGTON REYNOLDS, seventeen years of age, came to Philadelphia from Delaware in November, 1832, and placed himself under care of Dr. HORNER, on account of a tumour of the size and shape of a cocoa-nut, which occupied the whole of the left side of the neck. Dr. Horner referred him to me, and at the same time requested the opinion of Dr. PHYSICK on the case. The friends of the patient stated that the swelling had made its appearance five years before, that it arose without evident cause, and had gradually increased to its present magnitude. The boy now sought relief, on account of the difficulty of breathing and of deglutition he experienced, and which increased with the growth of the tumour. In other respects he felt no inconvenience from it; his complexion was florid and healthy, and his constitution apparently sound and vigorous. In consultation, it was determined that nothing less than extirpation would afford a chance of recovery, and I was requested to undertake the operation. Previously, however, I thought it advisable to reduce the patient by blood-letting, low diet, and other antiphlogistic means, both to diminish hæmorrhage, and to guard against inflammation. Having fulfilled these indications, I commenced the operation, (November 20th,) assisted by Drs. HORNER and J. R. BARTON, in the

Some weeks afterwards the boy returned to town, with a tumour half the size of the original one, occupying the same situation. The cicatrix had ulcerated, and there was discharged from the opening a sanious ill-conditioned matter. Fungus, also, was presented at the opening, and seemed to extend within the interior of the swelling. The patient's countenance was pale and ghastly, his skin of a waxy-yellowish hue, and his body emaciated. I saw that nothing more could be attempted for his relief. It was evidently a case of fungus hæmatodes. He was advised to return home, and shortly afterwards died in a dreadful condition.

Remarks.—There are two points connected with the operation just detailed, which give it an interest it might not in other respects, perhaps, be entitled to—the application of a ligature to the internal jugular vein, and the division of important nerves. It is an opinion generally received among surgeons, that large veins cannot be tied without great risk of inflammation of their internal surface speedily following, and proving fatal by extending to the heart. Such certainly has been the result in numerous instances in European practice, but it is equally certain that the occurrence in this country is extremely unusual, for out of a great many instances in which I myself have tied varicose saphenæ veins, and have seen the operation performed by others, I have never met with a single case of injury, much less of death, from such a cause. The only instance, indeed, that has ever come to my knowledge of death from tying the saphena vein, occurred a few years ago in this city in the practice of a respectable surgeon. There were circumstances, moreover, connected with that case, which rendered it very doubtful whether the unfavourable issue was owing to the operation, or to other causes. I think it very probable, therefore, that the constitutions of patients in this country, (owing to all classes of people being well fed and clothed, and little exposed to hardships,) are generally superior to those of Europeans, and as such more capable of resisting the operations of injury or disease. Whether this be true or not, however, it is certain, judging from the details published by European writers, that the patients that have fallen a sacrifice to phlebitis, occasioned by the ligature of veins, have very generally been among the lowest classes, whose constitutions were of the worst kind, and whose operations were performed in the crowded hospitals of large and unwholesome towns. I do not wish to be understood, however, to say that there is no danger from including a large vein in a ligature. On the contrary, I am well persuaded that there is always more or less risk, much greater risk, indeed, than would follow the tying of a large ar-

tery. I only mean to imply that there is less danger in tying a vein than is commonly imagined. Influenced by this opinion I ventured, in the case I have related above, to tie the internal jugular in two places. There are only a few examples on record, I believe, in which this vein has been tied, and most of them had a successful termination. The operation was first performed, there is reason to believe, by Dr. Simpson, of St. Andrews, in Scotland, eighty years ago, and the patient recovered without a bad symptom. Mr. Simmons, of Manchester, in England, also tied up the internal jugular, and with a similar result. Giraud has recorded a case in which a French surgeon, at Toulouse, tied the trunks of the common carotid artery and internal jugular for a wound from a musket-ball. The patient had no unfavourable symptoms as far as the sixth day; but it is not stated whether the man recovered. In this country the internal jugular has been tied by Drs. Mott and Stevens, of New York, by the former in 1828, and by the latter in 1830. Both patients recovered. Some interesting remarks on the ligatures of veins, in which cases and experiments have been detailed, have been published by Trousseau, and may be found in the 14th vol. of the "*Archives Générales de Médécine.*" The author is induced to conclude that there is less danger from tying a vein than is commonly imagined, and that the danger is often owing to prematurely pulling the ligatures away, and other mismanagement on the part of the surgeon. Fatal cases of wounds of the jugular veins have been reported, and the death of the patients attributed to the introduction of atmospheric air.

The division of the descendens noni in the case of Reynolds produced little or no inconvenience, it will be seen, to the patient—owing no doubt to this nerve being chiefly destined to supply the muscles of the neck, and holding no important connexion with the vital organs. The dissecting up the par vagum, by which it was more or less disturbed, probably gave rise to the erysipelatous inflammation of the abdomen—this nerve having an intimate relation to the stomach, intestines, &c. A division of it during the operation would probably have produced great disturbance in the animal economy, or have led, remotely, to the patient's death. The only further remark I deem it necessary to make in relation to this case is, that could I have known the tumour to have been of the nature of fungus hæmatodes, I should certainly not have undertaken to remove it—upon the ground, that there is not a single well-attested case on record in which this inveterate malady has been successfully removed by *extirpation*, and very few where the patient has recovered after amputation.

Art. II. *On the Medical Uses of the Viola Ovata.* By Stephen W. Williams, M. D. of Deerfield, Mass.

Viola ovata. *Synonym.* *Viola primulifolia*, Pursh. Rattlesnake violet. *Specific Description.* It is thus described by Nuttall.

Leaves ovate, subcordate, crenate, rather acute, often lacerately toothed at the base; equally and for the most part conspicuously pubescent on either side, petiole marginated; scape shorter than the leaves; segments of the calyx subciliate; petals obovate, the two lateral ones bearded. On dry land. Flowers bright blue; flowers in April and May. (North American genera.) I have ventured to give it the English name of rattlesnake violet, from the fact that it is generally known here by the name of the rattlesnake plantain, from its efficacy in curing the bite of that reptile.

Medical use.—The fact which I shall relate with regard to its efficacy in arresting the direful effects of the bite of the deadly rattlesnake may be implicitly relied on. Dr. Wells, when living, was considered one of the most eminent, judicious, and observing physicians which Massachusetts has ever claimed. His medical precepts and opinions are treasured up by many of his successors with religious veneration.

Let it not be objected to the *Viola ovata* that we are not acquainted with the active principle of the plant which thus rapidly arrests the progress of one of the most terrible accidents to which humanity is liable. The principal substance which can be extracted from it is mucilage, and this is best done by infusion in water. It yields a greater proportion of it than any of the violets, and nearly as much as the same quantity of slippery-elm, (Ulmus fulva;) hence it is much in use in dysentery, diarrhœa, strangury, and other affections of the urinary organs. Other medicinal qualities may reside in the plant,

but I have not discovered them. I cannot persuade myself that its specific qualities reside in the mucilage, for other substances yield mucilage in greater abundance, and are not considered alexipharmic. We ought always to be governed by *facts* rather than speculative opinions. Who can explain the reason why variola vaccina protects the system against the ravages of small-pox? and yet who can doubt the fact? If we can establish the prophylactic qualities of the rattlesnake violet upon as firm grounds, or if we can be instrumental in saving the life of a fellow being labouring under the effects of the bite of this venomous reptile, our object will be accomplished.

Many years ago rattlesnakes abounded in the vicinity of this place. Since the land is cleared they are rarely to be seen. Our old people were in the habit of using this violet for their bites. They generally know it by the name I have designated. The venerable Henry Wells, M. D. late of Montague, successfully employed it in these cases. To his statement respecting it I wish to draw the attention of physicians. He was called to a patient who was bitten by a rattlesnake, and who was labouring under all the symptoms of a diffusion of the venom. His body was enormously swoln, respiration laborious, and his skin livid. He immediately directed a strong infusion of the rattlesnake violet, and constantly bathed the wound and body with it. In a few hours the tumefaction subsided, the febrile symptoms abated, and the patient was considered nearly out of danger. He retired to rest, and gave directions with the nurse to give the violet tea often during the night. The patient continued so much better that the nurse became negligent, and omitted the directions, and fell asleep. From this suspension of the remedy the patient relapsed, the febrile symptoms returned, and the body was swoln like a puff-ball. The doctor was called, and again directed the remedy as before mentioned: the symptoms yielded, and from a continuance of the remedy two or three days he completely recovered without the use of any other means. Dr. Wells related the above fact to my father, who was formerly a physician in this town, and at the same time showed him the plant, which my father perfectly recollected when I collected it for preservation in my herbarium.

My grandfather, Dr. Thomas Williams, formerly of this town, was in the constant habit of using a plant for the bite of the rattlesnake, which he called the rattlesnake plantain, and he was uniformly successful in the use of it. His practice as a physician and surgeon was very extensive. I have no doubt that it was the violet now under consideration.

I have within a few days ceased visiting a little patient who says

that a short time before I was called to him he was bitten by a small green snake upon the top of his foot. Not long afterwards he was attacked with pain in his leg, attended with considerable swelling and high fever. I did not see him until he had been labouring under these symptoms some time. When I first saw him I did not apprehend that the fever, tumefaction, &c. proceeded from the bite of the snake, for I was not aware that its bite was venomous. I put him upon the antiphlogistic plan of treatment, and applied the vegeto-mineral water to the inflamed leg. The next day I visited him, and found his symptoms aggravated, and the swelling increasing. I threw aside the mineral water, and directed emollient fomentations with the rattlesnake violet, and a poultice made with bran stirred into the liquor of the infused leaves. The next morning I was highly pleased with the success of the applications. The tumefaction had subsided, and the fever abated. I left him under a confident expectation that he would soon recover. In the course of the afternoon, however, an officious, intermeddling old woman sent word to the parents of the patient that my applications were improper, and that nothing would cure him but a cold application of the leaves of houseleak, (Sempervivum tectorum,) which was accordingly applied. The consequence was an universal chill, succeeded by delirium, and an intense burning fever, from which he was not relieved under several days. He was immediately attacked with pain and inflammation in the groin of the other leg, attended with a good deal of swelling. I was immediately sent for, but could not go until the next morning. I directed the violet fomentations and poultices again. In about a fortnight suppuration occurred, and I let out about half a gill of pus upon the tibia, about half way between the knee and instep. The other leg continued swelled three or four weeks longer, when, by the continued application of the violet poultice, it subsided.

I have since used the infusion of this violet, and a fomentation with the leaves of it in an obstinate case of chronic inflammation of the eyes, which had resisted the long-continued use of a great variety of remedies. The patient had used the slippery-elm and various other mucilaginous preparations with no success; in fact, with rather an aggravation of the complaint. Within a fortnight from the time she commenced with the violet infusion no traces of inflammation about the eyes remained. So it appears it must be some other quality in the violet than its mucilaginous properties which must have effected the change. I am determined in future to use it extensively in the phlegmasiæ, both acute and chronic.

Deerfield, Massachusetts, August 1st, 1833.

Art. III. *Cerebral Affections of Children.* By W. W. Gerhard, M. D. of Philadelphia.

THIS essay upon the cerebral affections of children will be divided into two distinct parts; the first containing the cases I have collected during a year's observation at the Children's Hospital of Paris, and the second consisting in an analysis of my own observations, and of such others as are contained in special treatises, or in the collections of the journals. From these two sources I shall probably derive sufficient materials to elucidate many points relative to the pathology of these diseases, and after separating such facts as seem clearly established by rigorous evidence, I may facilitate inquiries of subsequent observers. The cerebral affections of children are too rare for collecting a large mass of personal observations in a year's study; but their number, although insufficient for the resolution of many important questions is much larger than could have been met with in a long period of private practice, and will aid in the correct appreciation of the facts related by observers. Little other value is attached to these cases than as specimens of disease, and as proofs that criticism is not extended to other writers without previous study of the natural phenomena at the bed-side and in the amphitheatre. This little personal experience will be perhaps partially compensated by the absence of all preconceived notions as to the nature, relative importance of symptoms or frequency of lesions in these cases; many of the observations are incomplete, none of them perfect, but they have all been collected without the desire of confirming any previous opinion, or of reaching other results than such as will be warranted by rigorous deductions. I have avoided examining the works upon these affections, and have even abstained from comparing my own observations with each other, believing that during a series of observations I should pursue the safer course to avoid all risk of forming a premature opinion upon a subject still intricate and obscure. These precautions may appear trivial, but such as are most familiar with the difficulties of observation will readily perceive the danger of theoretical opinions, and understand the utility of extreme caution in avoiding all suggestions which might give a false colouring to a course of observations in actual progress; as soon as the series is complete, the examination of the facts related by others is both appropriate and necessary. Such a method of study seems to me the only means of arriving at truths which subsequent experience will confirm, instead of the vague notions thrown out by one author and rejected by his suc-

cessor as false and untenable. The phenomena of disease are like the facts of the natural sciences subject to laws, pursue a regular march, and tend towards a natural termination by the recovery or death of the individual. The important difference, however, between medicine and the study of the ordinary phenomena of nature, is that we have an infinitely more complicated science, demanding a greater variety of knowledge, requiring the consideration of a multitude of external agents which modify the usual phenomena, and from the nature of the object, a thinking active being, obliging us to confine our means of investigation to a narrow limit. These difficulties render rigorous observation more painful, but more necessary, and show the futility of theories and vague notions in a science which requires a more careful study of facts than any other: a chemist performs his experiments and then states his deductions, but physicians too often form their theory and afterwards search for facts to sustain it. In short, few questions can be resolved without a direct appeal to nature; and it is only from facts well established and carefully analyzed that uncontested truths can be deduced. I have thought it due to the reader to explain the methods of study pursued, and to state my firm conviction that no other means are capable of establishing what is positive in medicine than the simple observation and comparison of facts. A large portion of the medical world is not yet convinced of the practicability of this sort of investigation, and some physicians affect to disdain these painful researches, and imagine that it is the part of an humble order of intellect to be confined to the naked facts instead of indulging in those vast combinations which indicate a superior mind. But as the object principally to be attained in every scientific research is the discovery of truth, and not the gratification of individual vanity, the means to be pursued in the investigation are such as lead most surely to this end, and the physician who has courage sufficient to devote himself first to the rigid proof of the existence of the phenomena, and who will afterwards investigate their relations and seek to interpret the facts, pursues a more logical and useful course than he who discovers, or imagines that he has discovered an isolated cause with which he seeks to establish the connexion of the numerous facts that he witnesses. Indeed, the numerical method of observation, or in other words, the careful examination of facts followed by their numerical comparison is now recognised by a large number of physicians as the nearest approach to the method of study employed in the other sciences, with this difference, that the phenomena which we investigate are transitory and cannot be reproduced at pleasure as chemical or physical experiments, the proof of which is always readily

confirmed without the necessity of cyphers, which are indispensable to establish the more or less constant succession of the variable phenomena of disease. The imperfection of the method is not contested, but it is evidently the least imperfect of all; more truth and less error will be published by the observers who reason directly from their facts than by those physicians who are less rigorous—who simply write from imperfect recollection, and who attempt to fill up all voids with the creations of their fancy. Thus observation is essentially progressive, each succeeding observer fixes his point of departure at the spot where his predecessor had terminated his researches, and necessarily advances a little in the knowledge of truth; the progress depends on the epoch, not on the observer.

The cases of cerebral affections about to be related, comprise all those occurring in the boy's wards of the children's hospital at Paris, during eight months, from the first of August, 1832, to the 1st of April, 1833; during the four months, from the 1st of April to the 1st of August, 1833, all the cases admitted into the girl's wards will also be found in the collection, besides a few others that were collected before I had commenced a regular series of observations, or which I witnessed in divisions of the hospital in which I was not at the time habitually occupied. They were all mortal excepting two, which presented a totally different series of symptoms from those remarked in the other subjects. The classification is based upon the anatomical lesions of the cerebral organs, and is merely made for the convenience of the reader; in a subsequent article it will be retained or modified in conformance with the results of analysis. The title cerebral affection comprehends all the diseases in which the *predominating* symptoms consisted in some modification of the cerebral or nervous functions, excluding of course the cases of simple somnolence, stupor or delirium, and not even admitting convulsions or other grave symptoms which were merely the precursors of death, and not permanent or essential elements of the disease. Some examples of these cases will be given to establish the evident distinction between the two classes. Three divisions are for the present adopted; the 1st includes such subjects as presented some evident incontestable lesion of the brain or its membranes without the existence of well-characterized tuberculous or other accidental tissues; the 2d includes the cases in which these accidental structures coïncided with the cerebral symptoms, and the 3d the subjects offering doubtful or extremely slight anatomical traces of disease. To complete the series it will be necessary to enumerate such cases as presented a lesion of the brain without being preceded by marked symptoms during life. The anatomi-

cal classification is the most precise, and being based upon material facts, which are recognised without much difficulty, the transition is afterwards more easy to the cases which terminate happily.

Observation I.—Rebours Alfred, six years of age, entered the 1st of February, 1833. Born at Paris.

The following history I obtained from his mother, a woman of remarkable intelligence. He is the second child, was attacked with convulsions at the age of four months, immediately after a fall upon the floor, the convulsions returned frequently, especially during the period of dentition, which commenced at nine months and terminated at the age of three years: at this last epoch he was taken with croup, (diagnosis of the physician who attended him;) during the disease convulsions supervened, leeches were applied behind the ears, but the convulsions returned four times. From the age of three to four years he enjoyed perfect health; an eruption of scarlatina then appeared preceded by convulsions, which ceased as soon as the eruption became general. At five years he had measles, with return of convulsions before the eruption. Since that time he has had no convulsions, his health good, excepting a fever in August last accompanied with diarrhœa. He was vaccinated five times without success; has had an eruption of varicella, but neither small-pox nor hooping-cough. The child is very intelligent, lively, and impetuous; learns readily; was fat and strong until August last, since that time he has become thinner, but has not coughed. Eight weeks before his entrance an eruptive disease of the scalp appeared, which no longer existed notwithstanding the application of irritants to keep up the secretion at the end of four weeks.

On the 2d or 3d of January he fell in going to school, striking the back part of the head; since that time he complains of head-ache, but did not cease going to school until the 16th, when, after some days of increased cephalalgia, especially when near the stove, he returned home, complaining of severe pain in the head, and immediately vomited a greenish liquid. He was put to bed, and eight leeches were applied behind the ears; their application threw him into a violent fit of anger, accompanied with a convulsion characterized by the movements of the eyes and strong contractions of the limbs. From that time he was confined to his bed, the vomiting returning on several successive days. Since the month of August he has had a diarrhœa of five or six discharges daily, which ceased, and was replaced by obstinate constipation eight days before the symptoms. He has had fever; the convulsions have returned very frequently up to his entrance, especially after a second application of leeches to the tem-

ples three or four days previously, which was again followed by violent anger. Delirium within two or three days only.

Present condition, February 2d.—Hair and complexion fair; rather thin; skeleton well formed; decubitus dorsal; face pale; features not much distorted, but risus sardonicus when spoken to, and frequent grimaces, extending to all the muscles of the face, with slight spasmodic movements of the jaw and lips—the corner of the mouth a little drawn towards the right side. Eyes not injected, slight strabismus of the right, pupils neither dilated nor contracted, natural; stupor constant, but easily dissipated on speaking to him; answers are sometimes correct, at others incoherent; delirium and cries during the night; movement and sensibility natural, without rigidity; he asks for food more frequently than drink; tongue trembling, moist, whitish and villous at the centre, reddish at the edges, not evidently deviated; deglutition easy; abdomen retracted, appears tender to pressure: no dejections; heat pungent and dry; pulse 80, small and feeble, but regular; respiration 26, irregular, a little elevated without dilatation of the nostrils, pure. Milk; hot pediluvia with ashes, (twice;) potion of Chaussier.

3*d*, 9 *A. M.* Delirium during the night, commencing at 8 o'clock last evening; since daylight he is calm; same decubitus; profound coma; eyes hollow; pupils dilated, contracting a little in a bright light, without a marked difference in size, regular, slight strabismus of the right eye; sensibility of the skin generally much increased, the slightest touch interrupting the coma and producing complaints; he complains of pains in the forehead, but says he has none elsewhere. Movements of the limbs natural, without the least rigidity; mouth slightly drawn to the right side, frequent movements of the lips; answers generally correct; voice natural; deglutition easy; heat dry, but not acrid; breath fetid; cough rare; pulse 80, regular; respiration 20, irregular, unequal; percussion of the chest sonorous, respiration vesicular without rhonchus; occasional complaints of pain in the abdomen. Potion of boric acid repeated; calomel, gr. iss.; ½ enema: diet.

5 *P. M.* No subsultus observed; heat increased; pulse 120, quick and regular; respiration 30, high, irregular; same stupor, but sometimes he asks for drink.

4*th.* Coma alternating with delirium; convulsive movements of the limbs at noon; the other cerebral functions carefully examined offered no change since the 3d, still constipated; abdomen retracted, the same complaints on pressure as on the rest of the surface; no plaintive cries, or cough or dejection; urine twice or three times in the

day, as previously voluntary; pulse at 5 o'clock 136, small, quick, and regular; respiration 20, irregular and high. Same potion of ʒj. boric acid to ℥v. of vehicle; 2 pediluvia with mustard; milk.

5th, 8 *A. M.* Agitation and delirium during the night; same decubitus, knees more elevated; face paler; eyes more hollow; mouth a little opened, not evidently distorted; eyes closed habitually, same state of pupils; ill humour if touched; no rigidity of the muscles; sensibility of the skin generally augmented; the purple spots noticed at his entrance have now nearly disappeared; answers rather more distinct; cephalalgia; no subsultus; abdomen retracted—he complains when pressure is made upon it; thirst; deglutition easy; he never asks for food; constipation; skin hot; pulse 104, quick, small, regular. ℞. Calomel, gr. v. in three doses at two hours interval; enema with ℥ss. of castor oil; sinapism to feet, twice; potion with boric acid.

6th. Delirium during the night; same decubitus; mouth at present slightly deviated towards the left side; face pale; lips red, not swollen; eyelids adhering from the dried secretions; pupils dilated; strabismus doubtful; sensibility diminished, movement as before; no subsultus; coma more profound; answers extremely rare; skin hot; pulse 119, trembling, feeble, irregular; respiration irregular, high, stertorous, 20 per minute; abdomen retracted, indolent; no dejections. A drop of croton oil; blisters to the legs. Deglutition easy; the croton oil was followed by a copious evacuation half an hour afterwards; but the same coma which existed since 7 o'clock in the morning continued; no convulsions nor cries.

7th, 8 *A. M.* The same symptom continued during the evening of yesterday; some involuntary movements of the arms were observed; mouth closed, both commissures depressed, the left more than the right; pupils equal, less dilated, perfectly insensible to a strong light; insensibility complete without rigidity of the right limbs, the left are less insensible, not rigid; some vague motions of the arm occasionally; no subsultus; no replies; deglutition still possible; skin cool; pulse feeble, trembling, but regular, 180; respiration stertorous, 43; abdomen very retracted, indolent; another copious dejection during the night. An hour later the pulse was insensible.

Death at 3 P. M.

Autopsy the 9th, forty-two hours after death.—Exterior. Slight rachetic deformity of the knees and feet; rigidity of all the limbs, especially the inferior; slight lividity of the thighs and posterior parts of the body, which is pale in general; slight emaciation.

Head. A little blood flows from the exterior of the dura mater; longitudinal sinus empty; arachnoid very dry on the convex surface

of the brain, no serosity beneath it; convolutions of the brain flattened; pia mater injected, especially posteriorly in the large veins, it may be detached without tearing the cortical substance. The arachnoid upon the convexity is neither transparent, nor granulated. *Base*, presents a general yellow or straw colour in its middle portion, including the pons varolii, medulla oblongata, a part of the anterior and middle lobes of the cerebrum, the polygon behind the optic nerves, and nearly the whole of the inferior face of the cerebellum. The arachnoid in the yellowish portions has lost its ordinary polish on its free surface, and presents beneath it, (that is, in the pia mater,) a yellowish concrete, firm matter, similar to concrete pus, and not very friable. The thickness of this substance or false membrane is very variable—near the commissure of the optic nerves it is about a line, diminishing towards the anterior and lateral parts of the cerebrum. The anterior lobes of the cerebrum adhere together by a numerous net-work of vessels; they cannot be separated without tearing the cerebral substance. Between the crura of the cerebrum, and beneath the yellowish substance described, we found an ecchymosis of blood which penetrated into the substance of the crura along their internal face to the thickness of one to two lines; the same infiltration of blood into the cerebral substance extends continuously into the two fossa of Sylvius to a greater degree and for a more considerable distance in the right than the left. The sides of the fossæ adhere by abundant filaments formed apparently by vessels and the yellowish concrete substance. The optic nerves adhere strongly to the brain. Arachnoid in general may be detached without injuring the cortical substance. Lateral ventricles contain about three ounces of limpid serosity in the two cavities. Consistence of the cerebrum normal, cortical substance moderately coloured; the medullary a little dotted with blood—the part of the crura nearest the ecchymosis is a little yellowish but firm. Cerebellum pale, firm; arachnoid rather more adherent than on the cerebrum. Pons varolii and medulla oblongata firm, pale. Foramen of Munro dilated, fornix and septum lucidum as well as the three commissures retain their usual aspect. Spinal marrow firm, white.

Abdomen. Stomach containing a dark-coloured mucous liquid; mucous membrane grayish, neither mamillated nor injected; consistence normal; strips three to five lines in great tuberosity, six to eight on the faces, one to two inches on the small curvature. Duodenum yellowish, containing very few crypts.—Small intestine. Upper half coloured yellow by the contents; the valvulæ a little greenish; no redness excepting at the lower part of the ileum, which offers some arboriza-

tions; consistence every where good; glands of Peyer little prominent, of the same colour as the adjoining membrane; isolated follicles not noted; mesenteric glands firm, not tuberculous, of the usual size.—Large intestine. Contents not noted; cœcum and ascending colon offer numerous arborizations which cease in the transverse colon. the membrane afterwards is pale; consistence every where good; strips more than an inch in length.—Liver of middle size, of good consistence, not fatty; gall-bladder contained a dark bile.—Spleen three inches in length, containing a small tubercle.—Kidneys firm, livid.—Bladded contracted.

Thorax. Lungs a little engorged with blood, especially on the left, but crepitant and permeable, not hepatized nor tuberculous; some bronchial glands of different size are tuberculous, yellow, and friable. Heart presented nothing remarkable—details not noted.

The previous history in this case is more perfect than can be obtained from many children at the Enfans Malades; the child was born of parents subject to convulsions, the same disposition seems to have been transmitted to their children. The subject of this observation was intelligent, lively, but irritable and delicate, subject to cerebral symptoms when other diseases existed, each application of leeches augmented instead of diminishing the convulsions. An accidental fall upon the head seems to have been the exciting cause of the symptoms which preceded death. These followed an ordinary course—vomiting, constipation, somnolence, delirium, coma, with convulsions. The anatomical lesions of the arachnoid were very marked, but the brain presented a lesion of its substance, consisting in a yellowish colour of the crura without softening, and an ecchymosis of considerable extent. Some tubercles existed in the bronchial glands, but not elsewhere. The intestinal canal offered nothing remarkable, notwithstanding the habitual diarrhœa.*

* The following details were learned as to the health of the relatives of the child. His mother is now 28 years of age, well formed, but pale. She menstruated at 15 years, was married at 18, is subject to convulsions from infancy, which increased in frequency from the age of 9 to 15 years, since then they have been less frequent, but not influenced by pregnancy; within the last three or four months she has had no attacks. She has had four children, the subject of the observation is the second; two others died of convulsions, at the ages of fourteen days, and eleven months: the youngest, a little girl six months old, is still living; she had a number of convulsive fits during the first six weeks after birth, she was then vaccinated, and has had none since. The father was also subject to attacks of epilepsy in childhood, but not since the age of 15 years. Neither the paternal nor maternal grandparents were known to have had convulsions.

Observation II.*—(Service of M. Jadelot.) Deucar Theodore, eleven years old, born at Marseilles. Spare habit, eyes and hair dark colour, habitual health good excepting some scrofulous abscesses on the limbs, the cicatrices of which are visible, one or two still present fistulous openings; lives in a damp porter's lodge with his parents, and within the last three months has been frequently obliged to sit up at night with his sick mother.

July 8th, 1832.—He was perfectly well, had not been up during the preceding night, went to bed in the evening, slept well until 5 o'clock in the morning, when he awoke with a sensation of dizziness, every thing seemed to turn around him, at the same time he was taken with nausea, and vomited a quantity of green bitter matter, followed abundant perspiration without previous chill. The vomiting was repeated ten or twelve times during the day. At 7 A. M. frontal cephalalgia, very intense, persisting during the whole day, with dizziness, anorexia, great thirst, a little colic, but no evacuations, urine abundant. During the night of the 8th and 9th he was awakened once or twice by the violence of the head-ache.

9th. Increase of the cephalalgia and vertigo, vomiting but only in the morning, eyes painful in a bright light. At 9 o'clock severe pains in the abdomen, and followed by one evacuation. At 11 chill with vomiting, afterwards fever and sweating which lasted almost all day. At 1 P. M. he is brought to the hospital. From that moment the dizziness ceased, but the cephalalgia was still very intense, thirst greater, urine abundant, perspiration copious during the whole night.

Actual state, July 11th, morning.—Coloration of the face and body generally natural; intelligence. (Preceding details furnished by himself.) Answers prompt, distinct; frontal cephalalgia moderate; he has never felt formication or drowsiness; pupils contractile, light easily tolerated; thirst intense; appetite doubtful; neither nausea nor colics; abdomen well formed; tongue rose at the edges, villous and pale at the centre, moderately moist; no cough; respiration pure; pulse 72, developed, regular; skin hot and moist, appearance of good health, but sensation of feebleness; thinks he could not walk. Venesection, ℥viij.; ǂ enema with gtt. iv. laudanum of Sydenham; poultice to abdomen; infusion of mallows; milk. No change during the day except profuse perspiration in the afternoon, in the evening vomited several times after taking some broth; sleep very sound. On the morning of the 12th cephalalgia rather more severe, no dizziness,

* Read by M. Mannoir to the Société Médicale d'Observation, the 27th October, 1832.

thirst moderate, appetite good, abdomen yielding, not tender; tongue not so white, skin moist; pulse 80, less developed than yesterday. The blood drawn from the arm presents a thick, firm, black coagulum, not buffed, serum moderately abundant. Tisane of liquorice and nitre; common enema; cataplasm to the abdomen, with ʒi. laudanum of Rousseau; broth.

From the 13th to the 17th the state of the patient improved daily, after a warm bath on the 13th the cephalalgia disappeared, the appetite was good, thirst natural, dejections natural, no chills or perspiration or pain in any part of the body; pulse counted in the morning was always between 70 and 80, regular; one vomiting the 16th after taking some soup which he disliked; he asked permission to leave his bed.

On the evening of the 17th no change having occurred during the day, the patient is suddenly affected with severe frontal cephalalgia without previous chill, the pain was most severe on the left side; the eyes became painful on exposure to the light; night agitated.

18*th*, *at* 9 *A. M.* Pain in the head continues, the patient is dejected, face rather pale than red, eyes half-closed, painful when exposed to the light, pupils contractile, equal, sight natural, slight somnolence; intelligence perfect, anorexia, no thirst; abdomen yielding, not tender; skin hot and dry; pulse 68, full, regular; during several of the preceding evenings it was a little more frequent, with increase of the heat of the surface. Eighteen leeches to abdomen, emollient poultice afterwards, fomentations of mustard to legs; tisane of liquorice; tartaric lemonade.

On the 19th the same cerebral symptoms continued, especially the head-ache which was constantly more severe on the right than the left temple; somnolence great, the patient attributes it to the bright daylight; answers obtained with difficulty; expression of pain, nausea, and two liquid stools this morning without colic; during the night cough and frequent sneezing; the respiration is pure but feeble; he complains of pain in the throat in swallowing; pharynx natural; pulse 60. Six leeches behind the left ear, ten behind the right; cold compresses to the head; sinapisms to legs; tisane.

20*th*. Pain in the head persisted after the application of the leeches, but diminished during the night; eyes constantly closed; answers slow, reluctant, but perfectly correct; cough and pain in the throat diminished; sinapisms to eyes; emollient cataplasm to abdomen; vinegar poultices to the ankles.

21*st*. Without pain when at rest, but as soon as he is touched or moved, he cries and complains of suffering pain. Right eye painful,

he resists strongly any effort to open it; left eye not painful, opened voluntarily; pupils natural, contractile; head inclined towards the right side; both arms equally sensible to the touch, muscles contract with equal force. Friction to the chest, with tinct. camphoræ, et vini cinchonæ, āā. ℥iv.; ether acet. ℥j.; infusion tigliæ; vinegar poultices to feet; warm bath; musk, gr. iij. in six pills.

22*d.* Less cephalalgia; motion still very painful; somnolence; the child neither speaks nor moves during the whole day; says he is thirsty, and desires food; abundant perspiration yesterday, especially in the evening; night tranquil. Same prescription.

23*d.* Amelioration continues; pain in the head moderate, confined to the right temple; motion more easy; decubitus indifferent, variable; less drowsy, but answers still unwillingly; perspiration again profuse last evening; appetite and thirst great; tongue rosy at the edges, yellowish and villous at the centre, moderately moist; lips encrusted for some days past; breath fetid since his admission into the hospital. During the last five days the pulse was between 60 and 70, full, and regular; slightly irregular on the morning of the 23d; respiration natural; skin always hot and dry, excepting during the sweat just mentioned; heat increased in the evening; no vomiting; a little nausea the 20th; tongue rosy, pale, villous and moist. Every day from two to five liquid dejections without colic; thirst generally moderate; urine abundant; abdomen yielding, not tympanitic nor tender; face emaciated, not highly coloured; expression sad, indifferent; eyes almost constantly closed.

On the morning of the 24th he said he was much better, and felt no pain. Sleep natural; somnolence much diminished; answers not so slow; skin warm and moist; pulse 64. At 2 P. M. his parents visited him, and found him with his eyes opened, perfectly awake, but notwithstanding the most pressing entreaties they could not obtain from him a single word of reply. No delirium during the night.

25*th, at* 9 *A. M.* Decubitus on the left side; the left cheek reposing on the palm of the hand; inferior extremities semiflexed; attitude perfectly natural; air of complete indifference, and half stupor; not the least answer; he seems not to perceive that questions are asked; face slightly coloured, especially at the cheeks; no distortion; eyes half open, move naturally in their orbits; the right pupil more than two lines in diameter, even when exposed to a bright light is slightly irregular, and nearly insensible; the left is smaller, contractile, regular; expression of pain, and frowning when his head is touched; much more resistance in extending the left than the right arm;

movement however still voluntary, for the patient replaces the left hand on his head immediately after its release; sensibility preserved in both superior extremities, but somewhat obtuse in the lower; respiration 30, regular, a little elevated; pulse 62, regular, rather full; temperature of the face and arms natural, that of the body and lower extremities a little elevated; skin dry; abdomen hot, tympanitic; upon pressing it the muscles contract without causing grimaces; one rose, lenticular spot and two or three particles on the abdomen. Blister to the back of the neck; fomentations of mustard to the legs; musk, gr. iij. in six pills; frictions with acetic ether. Same state during the day and night; no delirium; stools and urine involuntary.

26*th.* Decubitus dorsal; sensibility of upper extremities equally obtuse, the right is in a state of nearly complete resolution, and falls heavily when raised up, but still capable of some slight voluntary movements; the left sensible to pain, and contractility natural, but a few moments after the examination it offered a marked contraction, the wrist and forearm in semiflexion, impossible to extend, when the effort is made the marks become tense and resist most strongly; sensibility not very obtuse in the lower extremities; motion voluntary; skin hot; pulse 80, rather full; respiration 30, high, regular, noisy at times; slight cough; brownish froth on the lips; breath very fetid; abdomen flattened, resisting. Calomel twelve grains in three doses; eight leeches to the right temple. Same state; but respiration more stertorous. Death at 9 P. M.

Autopsy the 28*th, thirty-eight hours after death.*—Temperature rather cool; lividity of the whole posterior part of the trunk; abdomen greenish.

Head. Blood rather abundant at the exterior of the dura mater; a long semitransparent fibrinous coagulum in the longitudinal sinus; some very slight adhesions between the cerebral arachnoid and that of the dura mater; general aspect of the convolutions flattened, and rather moist; the large cerebral veins of both hemispheres, but especially the left, are engorged with blood, between them are a multitude of fine arborizations giving to the external surface of the brain a general red colour; around the large veins mentioned, but not in the intermediate space, the arachnoid is of a light straw colour, semiopaque, as if a very small quantity of pus had been deposited around these vessels; this appearance is irregularly distributed on the two hemispheres, more marked on the lateral and middle part of the right hemisphere, where upon cutting through the arachnoid little masses of that substance of the appearance and consistence of buffy

coat of blood can be detected from the surface of the brain; no infiltration beneath the arachnoid; pia mater detached with difficulty, tearing a little the cerebral substance, especially on the right side; the cortical portion is of a violet tint, evidently a deeper colour than in the natural state, but of good consistence, except in the right temporal region a little above and anterior to the ear, where it seems a little softened; below this point it has a slightly yellowish tinge, and forms a little mass, of the size of a large bean, rather hard, traversed by a large number of voluminous vessels, whose orifices are open, and contain blood and not pus; the same aspect is presented in the fossa of Sylvius, into which this yellowish hard substance is introduced, it is a line and a half thick, and traversed by open vessels, strongly adherent to the two lobes forming the fossa, and surrounded by a thin layer of softened cortical substance.

At the *base* of the brain the yellow semi-opaque matter existed around the vessels which enter the two fossæ of Sylvius, but to a much less degree on the left than the right side; the same appearance was found around the veins of that portion of the superior face of the cerebellum, without softening of the subjacent cineritious substance. The medullary substance of the brain is moderately dotted with blood, of a light violet tint; each lateral ventricle contains two or three tea-spoonfuls of limpid serosity; the central portion, especially the posterior pillars of the fornix and the septum lucidum, are very easily torn, a touch reduces them into little filaments floating in the serosity of the ventricles, their whiteness is perfectly preserved; plexus choroides pale; corpora striata, optic thalami, annular protuberance and cerebellum offer no lesions; the sinuses of the base of the brain are filled with black blood half liquid, half coagulated.

Thorax. Pericardium contains half an ounce of transparent serosity; heart, size of the fist of the subject; right cavities containing much coagulated blood, and a little fibrine; the left very little blood; parietes of the left ventricle from four to five lines in thickness, those of the right two; left pleura contains an ounce of reddish serosity; left lung without adhesions, retains its form after removing it from the chest, of a general pale violet colour; several groups of blood-vessels are remarkably developed beneath the pleura at the lower part of the upper lobe; the pulmonary tissue in the upper lobe is reddish-brown, very crepitant, spongy, containing little blood; the lower lobe offers the same aspect in the greater part of its extent, in some points only are nuclei of a pale colour, the section is granulated, contains no air, and is very friable; bronchi pale, containing some puriform mucus; a bronchial gland on the outer side of one of

the largest, is converted into yellowish and blackish cretaceous matter; right pleura contains no serosity; the upper half of the right lung presents some cellular adhesions easily broken; the surface is of the same colour as the left, and presents some bands of interlobular empyreuma; pulmonary tissue fawn colour, containing little blood in the upper lobe, but more in the lower, though without traces of empyreuma. *Larynx* pale, perfectly healthy, containing a little purulent mucus; same contents in the pharynx.

Abdomen. No serosity in the peritoneum; stomach of middle size, contains three or four ounces of black liquid, mixed with little blackish flocculi; mucous membrane presents a marbled-rose-colour with some large arborizations, and a little dotted redness along the small curvature; the membrane yields even in the large tuberosity strips of two to four lines, more than an inch in the small curvature, and five or six lines every where else; slight mammillation near the pylorus; small intestine brownish externally, containing a little dark yellow mucus; invagination two or three inches in length in the middle of the intestine; a little brownish matter, and one lumbricus in the last half of the intestine; a few isolated crypts are visible at the commencement of the jejunum, but none near the end of the ileum, in which are eight or ten agglomerated glands, irregular, little prominent, of the same colour as the intestine, dotted with black points; general colour of the mucous membrane like that of the contents; thickness natural; consistence good; strips three or four lines in length in the jejunum, six to eight in the ileum, the last half of which presents some delicate arborizations; mesenteric glands small, grayish-rose colour, firm; large intestine contracted, containing some soft fecal matter; mucous membrane pale, slightly rose coloured, with some scattered arborizations; follicles with black central points visible beneath the membrane; thickness and consistence normal, strips eight to twelve lines. Liver extrude a little beyond the ribs, brownish-slate colour, firm, containing little blood. Spleen three inches long, pale claret tinge, good consistence. Kidneys firm, livid red, containing much blood. Bladder contains half a glass of urine with an abundant flocculent sediment; internal membrane finely injected, firm, not thickened.

I am indebted for this observation to my friend Mr. Mannoir, of Geneva, who collected it during the period we were both engaged in observing at the children's hospital. It is relative to a scrofulous child who had not perfectly recovered his health, and besides the unfavourable circumstances of a damp, gloomy lodge, and the nearly absolute privation of exercise to which a large number of the children

of porter's are condemned at Paris, he was obliged to undergo unusual fatigue in nursing his mother. The affection offered three distinct periods, the first characterized by vomiting which lasted two days, dizziness, somnolency, sensibility of the eyes, frontal cephalalgia, these symptoms diminished perhaps partly from the effects of the depletion. The second period, we remark return, and augmentation of the cephalalgia, especially on the right side; the cerebral functions are not more affected than in the first period, there is neither delirium nor alteration of the sensibility or motility; the third period was announced by the loss of consciousness, and the paralysis of sensibility of the upper extremities, with contraction of the left side, and complete relaxation of the right. The whole duration of the disease was eighteen days, the complications were slight and confined to a little diarrhœa. The anatomical lesions consisted in the infiltration of purulent matter at the base of the brain, but not considerable effusion into the ventricles; the cerebral substance was softened in a limited extent near the surface, and also the central part of the brain, but the nature of the latter lesion is not yet satisfactorily known, and certainly in the present case, in which the autopsy was made a considerable time after death, might have existed independently of any cerebral affection. The thorax presented nothing but some cretaceous matter in one of the bronchial glands, a fact insignificant in itself, but highly interesting when viewed in connexion with the scrofula with which the patient had been affected. The bronchial glands in children frequently present the tuberculous degeneration without traces of it elsewhere, a circumstance not observed in adults; attention should be turned towards these glands at all the periods of life, as the history of their lesions may aid in clearing the important question of the cure of tubercles. The abdominal viscera offered nothing remarkable. The treatment was equally unsuccessful in this case as in those which follow.

*Observation III.**—A boy, fifteen years of age, entered the Salle St. Jean, the 6th of August, 1832. (Service of M. Jadelot.) His father communicated the following details. He left the Hospital of La Pitié six weeks before his entrance; he had there been treated during a fortnight for cholera, which still was epidemic at Paris. He has never perfectly recovered his strength, although he returned to his work, (cabinet-maker,) but was unable to perform as much labour as usual. He complained of frequent pains in the head and abdomen.

* Read to the Société Médicale d'Observation, September, 1832.

Four days before his admission he was taken with nausea and vomiting, twice repeated, of green bitter matter, at the same time he had diarrhœa during two days, frontal cephalalgia, and insomnia, with slight cough. At his entrance he complained of cephalalgia, intelligence dull, answers extremely vague; chest sounds well on percussion; respiration pure; abdomen yielding, well formed, but painful, especially on pressure. During several days regular notes were not taken. The patient constantly complained of pain in the abdomen without either diarrhœa or tympanitis. M. Jadelot directed the day after his admission twenty-five leeches to be applied to the abdomen, and cold water to the head. The 9th he was bled; delirium came on the following night; agitation great before the venesection.

12*th.* Persistence of delirium. Eighteen leeches behind the ears, and ice to the head.

13*th.* Delirium augmented; constipation persists since his entrance. Venesection, ℥viij.; sinapisms to legs; ice to the head. After this date the observation was collected regularly.

Present state, July 14*th.*—Skeleton well formed; moderate embonpoint; complexion sallow; decubitus variable; vague unmeaning movements of the arms; stupor, accompanied with agitation, and frequently delirium characterized by unmeaning cries and words; insomnia nearly complete; frequent sighing and cries, but not apparently indicative of pain. He understands questions in a loud tone, and answers correctly, but the delirium is only momentarily interrupted; frontal cephalalgia; sight troubled; eyes dull, half-closed, but pupils contractile, not dilated, of natural appearance; no strabismus; hearing imperfect, with tinnitus aurium; sensibility and movement of all the limbs natural; face not distorted; heat moderate but dry; neither sudamina nor typhoid spots on the skin; tongue brownish, a little dry; teeth fuliginous, mouth remains half opened; abdomen retracted, presenting nothing on the exterior but the leech bites, some of which are in suppuration; pulse 80, a little irregular; respiration very irregular, alternately very frequent or slow; percussion of the chest sonorous anteriorly; respiration pure. Infusion of marsh mallow with syrup of ether; common enema; cataplasm to abdomen; diet; with grs. v. calomel in the evening.

15*th.* Delirium and insomnia during the night; this morning at times gay and laughing, at others sighs and plaintive cries; constipation persists; urine involuntary; pupils contractile, the left although exposed to a more direct light more dilated than the right; subsultus tendinum very frequent at the wrist; pulse 84. Warm bath; cold water to be applied to the head, and cataplasm to the abdomen; com-

mon enema; sinapisms to legs. The pulse was at 92 in the evening; respiration 28; tranquil in the bath, but subsultus tendinum rather increased; no amelioration followed it.

16*th.* Slept a little; delirium continues with the same characters; some floccilation, and efforts to detach his linen by pulling it forcibly; no sighing, but delirium less easily interrupted; answers less connected; pupils much dilated, especially the left, without strabismus; he moves his right arm much more than the left—both are generally semiflexed, resisting an effort to extend them; rigidity most considerable in the left arm, where it was doubtful on the 15th, but he flexes both hands at will, the left less strongly than the right; the same slight rigidity exists in the lower extremities, especially the left; hiccough at intervals; abdomen tympanitic, a little tender on pressure; pulse 96, regular, quick, moderately developed; tongue dry, brown at centre, red at the edges; teeth as before. Blister to back of neck; stimulating frictions to chest and arms; emollient cataplasm to the abdomen; cold water to the head; tisane with nitre.

Evening. Tremor extending to nearly all the muscles of the body; pulse 96; no other change.

17*th.* Night agitated; delirium has now changed in character, less noisy, but more difficult to suspend, marked by muttering rather than cries; tremor of face and limbs continues; subsultus frequent; rigidity of the muscles of the face, head, and neck; muscles of the jaw resist strongly any effort to depress it, but afterwards he opens the mouth voluntarily; sensibility always nearly natural; pupils directed upwards, irregularly dilated, but equal; pulse 92, a little irregular, but quick and resisting; tongue less dry; skin hot and dry; abdomen tympanitic. Tisane of liquorice and nitre; inf. tigliæ; enema of starch with gtt. v. laudanum; milk diluted.

Evening. Coma more intense; rarely complains, and then feebly, and half articulately of pain in the head; countenance entirely changed; sensibility a little diminished on the left side.

18*th.* Tremor constant and general, causing a general appearance very like that of a person shivering after a cold bath; subsultus frequent; jaws firmly closed, very rarely opened; floccilation; no answers; rigidity marked in both arms and in the left leg; sensibility diminished in the limbs that are rigid; pulse 120, difficult to examine on account of the frequent subsultus; tympanitis extreme; grimaces when the belly is touched. Syrup of ether; stimulating frictions; inf. tigliæ. Pulse 144 in the evening; no cries; tremor persists. Same state in other respects.

Death on the 19th at 5 A. M.

Autopsy the 20th, twenty-nine hours after death.—Exterior. Emaciation slight. Abdomen greenish, meteorized, two or three ulcerations corresponding to leech bites exist at the epigastrium. No œdema. Rigidity of the limbs moderate; some violet strips at the posterior part of the trunk and limbs; muscles firm, red. Placing the subject on the belly, an abundant greenish yellow liquid flowed from the nose and mouth.

Head. A little blood on the exterior of the dura mater; longitudinal sinus entirely empty; no effusion into the great cavity of the arachnoid nor beneath the membrane at the convex surface of the brain; pia mater can be easily detached from the brain, its vessels are moderately distended with blood.—*Base.* The arachnoid covering the commissure of the optic nerves is yellowish, opaque, and presents a thickness of three-quarters of a line, caused by the effusion beneath it of a pale yellow matter resembling concrete pus and very adherent. The arachnoid covering the anterior part of the annular protuberance presents the same semi-opaque aspect, but with less thickness. The part of the membrane upon the superior face of the cerebellum is also of the appearance just described, but only in the sort of crescent formed by that organ near the tubercular quadrigemina, that is the most anterior part of it. From this sort of crescent the yellow substance extends upon the cerebellum to the breadth of three or four lines, until the arachnoid gradually resumes its transparency. The membrane is thickened but not yellow in the fossa behind the crura of the cerebellum, in the rest of its extent it retains its ordinary aspect, except on the lateral part of the right hemisphere where it is a little rosy, apparently from ecchymosis. The large vessel contained within the fossa of Sylvius of the right side, is filled with a black and firm coagulum, and surrounded with a dense whitish matter, grating beneath scalpel, and except in colour resembling the yellow substance described: it forms a sort of sheath around the vessels, and agglutinates the parietes of the scissure. A similar lesion but to a less degree exists on the left side. The convolutions on the summit of the brain are a little flattened, the cortical substance pale, and the medullary very little injected. Brain *throughout firm*, and of its normal appearance. About two ounces of serosity contained in the two ventricles flowed from an incision into the right. Cerebellum and annular protuberance of normal firmness, very little injected. The arachnoid covering the first inch of the medulla oblongata is a little opaque, hard and thickened. Spinal marrow firm, white without appreciable lesion. Very little serosity at the base of the brain, or in the spinal cavity.

Neck. Larynx grayish, not ulcerated.—*Pharynx* pale, not ulcerated.

Thorax. Pericardium contains about an ounce of reddish serosity.—*Heart* flaccid, containing a fibrinous coagulum infiltrated with serosity in the right cavities, a little fluid blood in the left. The whole internal coat of the heart and great vessels is of a livid-rose colour.—*Pleuræ*, each contains a little reddish serosity, some slight cellular adhesions on the left side.—*Left lung* crepitant, distended with air, greenish in some points; tissue in both lobes bright red, light, and contains a certain number of gray semitransparent granulations a little tinged in green, and separated by healthy tissue; no tubercles nor hepatizations. Right lung presents the same aspect, and similar granulations scattered throughout its upper and lower lobes, the middle contains one or two tubercles of the size of peas, not softened. At the bifurcation of the bronchia there is a ganglion of the size of a small walnut, completely transformed into yellow tuberculous matter, marked with dark bands and not softened; a few tubercles are scattered beneath the costal pleuræ.

Abdomen. Three or four ounces of reddish serosity in *the peritoneum.*—*Stomach* of moderate size, contains some black liquid; mucous membrane much wrinkled, of a grayish tint, with a few scattered arborizations, not mammillated, but containing within its thickness in the two inches nearest the pylorus an abundance of little white points of the size of pin's heads, scarcely projecting above the level of the membrane; thickness normal, strips from three to five lines in the great cul-de-sac, seven to eight great curvature, and more than an inch in the small; (a long rusty pin is in the midst of the contents.)—*Duodenum* tinged by the bile, containing a multitude of muciparous crypts.—*Small intestine* contains some gas, greenish externally, containing in its whole length a moderate quantity of mucous matter, greenish superiorly, but afterwards darker, and nearly black towards the end; the mucous membrane is alternately pale, and dark green in the points where the liquid existed; but in the last half where the blackish matter was found, it is nearly every where pale; thickness natural; consistence natural in the first half, strips of eight to ten lines even in the part where the green colour is most intense; in the second half the membrane is very thin, and yields strips only from three to five lines, the cellular tissue is emphysematous beneath it; (perhaps the partial softening is cadaveric;) agglomerated glands of Peyer scattered, but not abundantly in the last half of the intestine, they are slightly reticular, a little elevated; a few near the valve dotted with black points; a very few isolated

crypts of Brunner near the middle of the intestine, where there are some arborizations of small extent.—*Large intestine* distended with gas, containing an abundant black pultaceous matter; mucous membrane of a light greenish-brown in the cœcum, where the strips are eight to twelve lines long; in the ascending colon it is pale, thin, and yields strips of nearly two inches long; in the transverse colon it is brownish, and offers some isolated follicles with central points, giving long and thin strips; in the rectum equally firm, but pale, and a little thicker.—*Mesenteric ganglia* small, pale, firm, not tuberculous.—*Liver* of the usual volume and consistence; tissue pale and containing very little blood; gall-bladder small, containing a little yellowish bile.—*Spleen* nearly four inches long, flaccid, brownish externally, livid internally.—*Kidneys* of the usual size, pale, the two substances very distinct.—*Bladder* distended with urine; some large ecchymoses at the great fundus, and some fine arborizations in the rest of its extent; greenish in points, with an odour of putrefaction; mucous membrane yields strips eight or ten lines long, even in the reddest portions; the ecchymosis is common to the mucous and cellular tissue.

This case is defective as to the previous history of the patient, and a detailed examination was only made during the four last days of his life. The subject of this case was the oldest observed, the meningitis began in an enfeebled subject who was still suffering from the sequelæ of cholera, and as the autopsy proved, he was tuberculous; it began by *vomiting*, slight diarrhœa succeeded by *constipation*, cephalalgia and insomnia. Delirium supervened on the eighth day, augmenting constantly until it was succeeded by profound coma previously to his death, which took place on the 18th. The other cerebral symptoms were rigidity of the limbs, especially of the left side, beginning on the 14th day; floccilation, dilatation of the pupils, subsultus tendinum, and shivering of the whole body; no convulsions occurred during the hours I passed in the ward, (four or five daily.) Deglutition not noted; abdomen tympanitic, apparently sensible; constipation; slight cough; but pure respiration during the whole course of the disease, which pursued a regular march, the symptoms gradually increasing in intensity until his death. The treatment which was not deficient in vigour at the beginning produced no sensible effect. The anatomical lesions of the brain consisted in an opacity of the arachnoid at the centre of the base, and in the fossa of Sylvius, especially on the right side; but the cerebral substance was every where perfectly firm, and without the least appreciable lesion; the ventricles containing a moderate quantity of serosity. On the convex sur-

face the arachnoid was remarkably dry, and adhered closely to the convolutions which were evidently more flattened than usual. The other viscera offered nothing remarkable, excepting the existence of tubercles in the lungs and bronchial glands. The commencement was similar to that of the last case, but here there was a constant but gradual augmentation of the symptoms, delirium supervened on the eighth day; in other respects the analogy is very close, both in the symptoms and anatomical lesions. But I shall not extend the remarks on each case, as the general summary will necessarily contain the most condensed and important statement of the results obtained by the comparison of the individual observations.

Observation IV. (Female ward; service of M. Jadelot.)—Erlemont Stephanie, five years and a half of age, entered the 18th of June, 1833. Born in French Flanders, but now living in the Rue St. Jacques. Before her arrival at Paris in September last, she had enjoyed perfect health, excepting an intermittent fever which lasted during several months last autumn, (common in her province.) She has been vaccinated, has not had measles, or any eruptive disease of the scalp, has never had convulsions nor worms, does not cough habitually, and is not subject to diarrhœa; appetite and digestion good; her health and embonpoint were not impaired at her arrival at Paris, notwithstanding the indifferent food to which the distress of her parents had confined her for some months. Since her residence in the capital, food abundant; intelligence developed; some lymphatic glands of the neck a little augmented in size within three months.

In the month of February her parents observed that she limped; a tumour formed on the instep of the left foot, which suppurated in the month of March, and has constantly discharged a purulent matter since that time. She was confined to the house on account of the affection of her foot, but was perfectly gay and playful; appetite and digestion excellent.

The 15th she was perfectly well; ate as usual at four o'clock; slept well until four o'clock in the morning, when her parents were awakened by the same plaintive cries she has so frequently uttered since; they then perceived that the left arm and leg were agitated by convulsive movements, but the members of the right side were stiff and motionless. Replies slow, reluctant, confined to yes and no; cries frequent, especially when agitated by the movements of the left side; mouth drawn to the left side during the convulsions, and permanently distorted on the 17th—left eye opened in the attacks; strabismus not perceived; vomiting only on coming to the hospital in the carriage; constipation since the beginning; she has eaten nothing but a

little soup with repugnance; no thirst; she drinks sometimes when a cup is put to her lips, but often refuses; heat of skin great on the left side of the body, not on the right; sleep troubled.

On the 19th of June she was not examined in consequence of her being placed by a mistake in a ward not appropriated to acute affections. The symptoms as far as noted did not differ from those observed the 20th when I examined the patient.

Present condition, June 20th, at 2 P. M.—Hair chesnut-coloured; embonpoint moderate; decubitus dorsal; head inclined to the right side; eyelids equally separated, leaving an interval of a line between the upper and lower; nostrils equally dilated, not in motion; lips violet but pale, and rather thick; the two commissures of the mouth depressed, mouth drawn a little towards the right side; sleep heavy, almost stupor; face pale: in awakening she opens her eyes and looks around her, the face becomes more coloured; pupils equal, regular, contractile, without strabismus, look fixed; hearing evidently preserved, but she seems not to understand the questions; humour tranquil; she moves her left arm and hand, frequently closes her fingers upon the hand; movements of the left leg equally free; sensibility on that side natural, neither apparently increased nor diminished; right arm motionless, falling when raised up, but always in the direction of the flexor muscles; rigidity and semiflexion of the elbow and wrist, but not of the fingers; sensibility very feeble, on pinching the skin smartly she withdraws the arm but very little; right leg slightly flexed, lying on its external face, rigid, and very little sensible on pinching the skin; jaws closed, rigid, sometimes movement of the lower as if triturating food; head slightly inclined backwards; no replies nor articulate sounds, but sometimes vague, low cries; deglutition nearly natural, slow; no dejection since her admission. (Abdomen not noted.) During the examination her father came to visit her, she recognised him without speaking; ate some strawberries; demanding more by gestures of the left hand. Sinapisms to legs; blister to the back of the neck; infusion of mallows. Yesterday eight leeches were applied behind the ears, another similar application had been made to the temples before her entrance.

21*st*, *at* 9 *A. M.* Pulse varying in frequency from 64 to 72, a little irregular; heat very moderate.

3 *P. M.* Decubitus dorsal, abandoned; face pale; lips livid, pale, thick; eyes opened at times; pupils contractile, equal, of natural size; a slight change of position renders the face injected; nostrils open, not in motion; head inclined backwards; same state of the right arm and leg as yesterday, but the rigidity is now extended to the fingers,

which are strongly flexed; left arm and leg still sensible; agitated frequently by movements, which seem voluntary; no subsultus; sight preserved, the eyes follow the movements of the hand or other objects held before them; no replies, cries not heard, but sighs very frequent; deglutition easy; no dejections. (Urine not noted.) Abdomen yielding, insensible to pressure; percussion of the chest sonorous; respiration pure and expansive. Prescription of the morning. Bladder of ice water to the head; six grains of calomel in three doses; cataplasms with vinegar to the feet; purgative enema; tisane of liquorice and nitre.

22*d*. Two doses of the calomel were taken last evening, and followed by a large evacuation in the night, (involuntary;) no convulsions.

9½ *A. M.* Face generally injected, but not of a livid-red colour—swollen since yesterday; lips same aspect; mouth not deviated; she opens her eyes, seems to see, but no longer follows with the eyes the movements of objects before them; pupils not contractile, equal, regular, a little dilated; same decubitus; right arm strongly contracted in all its articulations; the contractions of the muscles in most positions resisting the action of gravity; contraction instantly returning after forcible extension; sensibility increased, she withdraws the arm a little when pinched; the left arm is now rigid, perhaps more than the right; the elbow, wrist, and fingers strongly flexed, sensibility seems less than on the right side; rigidity of the inferior extremities slight, but sensibility very feeble; deglutition slow and difficult; no replies, no convulsions, but as previously frequent increase of the stiffness of the limbs with slight spasmodic movements; slight voluntary movements now occur from time to time in the *right* arm; no subsultus nor strabismus; cough loose, rare; skin hot; partial perspiration of the face; pulse 140, regular, very feeble; respiration high, regular, 36; chest sounds well on percussion, anteriorly and posteriorly; mucous rhonchus sometimes heard in the inspirations; palpitations of the heart accompanied with the bellows sound, *(bruit de soufflet;)* abdomen tympanitic, but insensible. Bath with cold affusions on the head; sinapisms to the legs; potion with ether; purgative injections. The bath produced no evident effect.

23*d*, 8 *A. M.* Same decubitus; face pale; eyes open, the left more than the right, covered with mucus, but not injected, pupils contractile, natural; nostrils dilate occasionally; mouth slightly open, a little drawn towards the left side; lips livid, pale; insensibility increased; rigidity persists on both sides, but now greater on the right than the left; deglutition impossible; respiration high, stertorous; no evacua-

tions; pulsations of the heart very feeble; chest sonorous anteriorly; mucous rhonchus very abundant on both sides; heat rather elevated; abdomen retracted, indolent. Tisane; cataplasms to feet.

4 *P. M.* Pulse irregular, trembling, 96; respiration stertorous, high, 48; face more injected than in the morning, sensibility diminished.

Death at midnight.

Autopsy the 24th, twelve hours after death.—Head. No blood on the exterior of the dura mater; a little serous blood without coagula in the longitudinal sinus. Arachnoid humid, but offering no serosity in its great cavity. Pia mater easily detached from the convolutions without destroying them; not at all injected; very little serum in some of the large veins only; arachnoid not thickened or granulated.—Base of the brain. The arachnoid around the commissure of the optic nerves, and in the space of rather more than half an inch posteriorly, was thickened, opaque, milky, but not offering a pseudo-membranous concretion. The left fossa of Sylvius presented a small number of hard, whitish granulations around the vessels, but neither false membranes nor injection. The right fossa presented a much larger number of granulations, forming clusters around the vessels; no false membranes; a little more injection than on the left side, but not to a considerable degree; very little serosity at the base. Cortical substance every where of a rosy tint, and very firm. Medullary moderately injected, firm. The lateral ventricles contained about three drachms of limpid serosity; the septum lucidum and fornix very soft but not diffluent; more easily torn than in the majority of subjects examined even at the expiration of a longer interval after death. Cerebellum quite as firm as the brain, not much injected. Annular protuberance and medulla oblongata firm and white. The whole cerebral mass carefully examined, contained no tubercles.

Spinal marrow. Vertebræ cautiously opened with the double saw of M. Charriére; after the section had been completed the spinal marrow was seized at the base of the brain, and drawn a little towards the occipital foramen, after a very moderate traction it broke at the base of the cervical vertebræ. In incising the dura mater, which was covered with some coagula of blood, the softening was found to exist in the extent of two to three inches in the part corresponding to the inferior cervical and superior dorsal vertebræ. The medulla retained its usual whiteness; the cortical and medullary portions distinct, but rather less so than usual; no vascular injection. In tearing the medulla by either of its extremities into ribbons, (which in the ordinary state can be done throughout the whole length,) they broke at the

softened part. Little serosity beneath the arachnoid, which was every where rather more closely adherent than usual. Larynx and trachea rose-coloured, not ulcerated.

Thorax.—Left lung slightly adherent; at the upper and posterior part of the lower lobe it is crepitant; the upper lobe of a rose-fawn colour, and the posterior two-thirds of the lower of a dark red; at the part of this lobe a little cluster of opaque tubercles of the size of small peas surrounded by a hardened impermeable tissue not granulated; the rest of the lobe is merely engorged with blood. Right lung contains some blood in its posterior part, but offers neither dilatation of the vesicles, hepatization, nor gray granulation. Bronchi rose-coloured, not dilated, containing a little mucus. Bronchial glands in part converted into tuberculous matter.

Abdomen. Stomach of middle size, containing a little mucus. Mucous membrane offers a general rose tint without marked injection; aspect polished, not mammillated; neither increase nor diminution of its thickness; consistence perfect; strips two inches in the small curvature, six to eight lines in the great, four or five in the great tuberosity. Small intestine of ordinary size, containing a yellowish liquid matter but no lumbrici. Mucous membrane throughout pale; consistence every where natural. Agglomerated follicles pale, little elevated, of the usual reticular appearance: a few isolated follicles towards the end of the intestine. Mesenteric glands small, firm, not tuberculous. Large intestine contains a quantity of pultaceous fecal matter; follicles very little developed; mucous membrane throughout pale, of natural aspect and consistence, yielding very long strips. Liver firm, containing little blood, not fatty. Other viscera present nothing remarkable.

The disease began suddenly without the usual precursory symptoms, but as in the preceding cases, it occurred in a tuberculous subject, who was also affected with scrofulous disease of the foot. The rigidity of the right arm was one of the first symptoms noticed, and at the very commencement was sufficiently marked to attract the attention of the parents of the child; it continued without intermission until death, which occurred much earlier than in the other subjects, at the end of the eighth day. The left side of the body was frequently the seat of strong convulsive movements, and in the last two days offered a degree of rigidity as great as the right side. No delirium was noticed; the intellectual faculties were very obtuse, but still retained on the fifth when she evidently recognised her father. Vomiting occurred on the third day after the appearance of the other symptoms; the constipation persisted during the whole affection. Passing

to the anatomical lesions we find very few traces of an affection of the cerebral mass; the granulations in the fossa of Sylvius, (more abundant on the *right* side,) were anormal, but whether they are to be regarded as the product of the acute affection, or as gray tuberculous granulations, is not perfectly certain. The softening of the spinal marrow was very remarkable; no doubt could be entertained as to its existence, for the autopsy was made before the body was perfectly cold, and the spinal column was opened in such a way as to preclude the possibility of mechanical injury of the spinal marrow. The septum lucidum and fornix were also evidently softened, but the quantity of serum in the ventricles was inconsiderable. The treatment was entirely without effect; indeed, at the admission of the patient it was evident that the termination would be fatal.

Observation V.—Jeannette, æt. 2, entered the 9th of June, 1833. (St. Catharine, female ward; service of M. Jadelot.)—The child was left at the hospital by her mother; she stated to the sister of the ward that the child had been sick five days, was constipated, but had not vomited.

Present state, June 9th, at 3½ *o'clock, P. M.*—Hair blond; complexion clear; face slightly rosy, but not red; lips rosy, of middle size; nostrils open, not in motion; eyelids equally opened; mouth nearly closed, not deviated; eyes gray, pupils insensible, contracted, equal; she does not open the eyes herself, the portion of cornea in contact with the air is covered with a film; the eyes are fixed, a little but doubtful strabismus; stupor profound; she neither sees nor hears; expression vacant; decubitus dorsal, abandoned; head inclined backwards; muscles of the neck a little rigid; upper and lower extremities generally lying motionless, and falling nearly if not quite independently of the muscles when raised up; slight rigidity of the elbows, but doubtful; sensibility of the surface diminished, smart pinching of the skin is necessary to make her withdraw her arms or legs; at times she raises her hands in the air, moving the fingers as if in search of objects, at others she joins them at the top of her head; feeble, plaintive cries when her head is moved, not uttered at other times; subsultus tendinum not remarked, nor convulsions; deglutition possible; pulse 76, feeble, irregular, both in the force and order of the pulsations; respiration 28, elevated, expiration heard at a distance; skin rather below than above the natural temperature; percussion sonorous in the anterior part of the chest, which could not be examined minutely; abdomen yielding, insensible. Prescription, eight leeches behind the ears; sinapisms to the legs; six grains of calomel in two doses.

10*th*, 9 *A. M.* Face generally pale; decubitus dorsal; head in-

clined to the right side, abandoned; nostrils not dilated; features not distorted; mouth closed; lips livid; eyelids separated to the distance of two lines, leaving exposed a part of the cornea which is covered with a film of mucus; pupils directed upwards, not visible; coma profound; neither replies nor other evidence that she neither hears or sees; insensibility almost absolute; the limbs paralyzed, falling immediately if without support; countenance entirely altered, characteristic of cerebral disease; when much disturbed she moves her hands a little without directing them to any object; face and chest cool; hands hot; respiration high, 26; pulse 132, regular, and sufficiently developed; abdomen yielding, insensible; no dejections. Ten leeches to the head, four of them behind the ears, the others to the temples; blisters to the occiput; frictions with ether to the limbs; common tisane.

4½ *P. M.* The heart had augmented; she moves her arms, and resists a little to the efforts to extend them, but without rigidity; eyes fixed, turned upwards; pulse 112, feeble and irregular. Death during the night.

Autopsy the 12th, thirty hours after death.—Exterior. Embonpoint considerable; livid spots on the internal parts of the inferior extremities; no rigidity.

Head. Almost no blood flows from the exterior of the dura mater; small fibrinous coagulum in the longitudinal sinus; convolutions flattened; anfractuosities nearly effaced; arachnoid dry, adhering closely to the surface of the convolutions; pia mater on the convex surface moderately injected in the larger vessels, and offering some patches of bright redness, on each side of the fissure between the hemispheres, and extending along the greater part of its length, the arachnoid contains rounded whitish bodies of the size of a mustard seed to that of a grain of millet, much less friable than tubercles; these granulations are not to be confounded with the glands of Pacchioni, which are much smaller, of a pearly-whiteness, and most visible at the posterior part of the fissure where the granulations are very rare. The vessels on the convex surface of the brain, are accompanied by little clusters of the same kind of granulations, but not sufficiently numerous to surround them; the arachnoid near them is opaque, but without increase of the general vascular injection. The hemisphere adhere at the bottom of the fissure by numerous cellular connexions easily broken by a little effort. Pia mater in general detached with difficulty, but the surface of the brain rarely torn on raising the membrane with ease. Base of the brain offers an ounce to an ounce and a half of limpid serosity. In both fossa of Sylvius around the large vessels, I found a pseudo-membranous yellow-

ish-white concretion, not extending beyond the fossa, and half a line to a line in thickness; some little rounded bodies can just be distinguished in the midst of this membrane, and from colour and consistence seem to be only another form of the same matter. The arachnoid covering the commissure of the optic nerves, and the polygon immediately posterior to them, is whitish, increased in thickness to a third of an inch by the concrete whitish substance effused beneath it, but can be detached more readily from the cerebral substance than this membrane on the summit of the brain. The opacity of the arachnoid extends to the adjoining parts of the base, and even to the superior and inferior surfaces of the cerebellum, disappearing by insensible gradations. The annular protuberance and medulla oblongata present the same aspect of the arachnoid, which is a little opaque to the termination of the superior third of the spinal marrow. Lateral ventricles contain an ounce and a half to two ounces of troubled milky serosity, but without injection or alteration of these parietes. Foramen of Monro rather larger than usual. Cortical substance of the cerebrum every where of a grayish-pink, the medullary portion less injected than usual. Corpora striata and optic thalami present a pink hue, a little different from that of the convolutions. The whole cerebral mass is of a perfect consistence. Septum lucidum and fornix white and firm; cerebellum not injected, a little less coloured, and not quite so firm as the cerebrum, (normal state;) medulla oblongata and annular protuberance very white and firm. Spinal marrow.—Arachnoid transparent in the inferior two-thirds, containing about an ounce and a half of limpid serosity; substance white and firm.

Abdomen. Stomach distended with mucosity; the great tuberosity is torn in separating it from the spleen; in this part of the organ all the tissues are grayish, softened, of a jelly-like aspect, and thickened; the same colour extends to all of them, but in a much greater degree to the mucous than the other coats. Anterior face irregularly shaded with livid, red spots, (of imbibition,) in other places it is yellowish or pale; its thickness is every where augmented, it yields no strips on traction, and is every where opaque; posterior face of a milky, dull-white colour, interspersed with very few red patches, but less opaque than the anterior face, not thickened, yielding strips of the usual length; no mammillation.—*Small intestine* containing a yellowish matter, but no worms; pale throughout, both as to its external and internal coats; mucous membrane yields strips of the usual length, (five to eight lines,) but they are brittle and require to be detached with much caution; agglomerated follicles of Peyer reticulated, very

little elevated, not dotted in gray or blue; isolated follicles of Brunner very numerous in the duodenum, rare afterwards, and again reäppearing in the last three or four feet, some of which near the end of the intestine are less elevated than the others, and present a central point.—*Mesenteric glands* pale, grayish, firm, of the usual size, not tuberculous.—*Large intestine* contains a greenish pultaceous fecal matter; mucous membrane pale, a little opaque, but not evidently thickened, presenting no red injection; and but few submucous vessels in the cœcum; consistence rather less than usual, strips from seven to ten lines.—*Liver*, ordinary size, of a pale brown and yellowish colour, intermixed in patches; incision yellowish, not granulated; the two substances not distinct, not evidently fatty; bile greenish, moderately abundant; *spleen* firm, bluish; kidneys firm, of a violet tint at the exterior, which is smooth and polished when freed from its external coat; bladder pale, not distended; uterus firm, of the size of a large kidney-bean; larynx pale, not ulcerated; *lungs* not adherent, of a delicate rosy-fawn colour externally, paler internally; the lower lobe of the left a little redder than the others, internally and externally. The lungs are every where soft, containing little serosity, and neither hepatized nor containing tubercles nor gray granulations. Bronchi pale, not dilated; two of the bronchial glands near the bifurcation of the trachea are converted into yellow tuberculous matter. *Pericardium* contains a little lemon-coloured serosity; heart rather small, firm, containing a little fluid blood; large vessels pale.

Although the details relative to this patient before her admission into the hospital are wanting, we have still the precise date of the affection ascertained, for there is scarcely a possibility of error in recognising the peculiar symptoms of these affections. The child was well-formed but apparently feeble, *tuberculous*, although this degeneration was confined to the bronchial glands. The symptoms were those of the last stage of these affections, slow pulse, resolution of the limbs, insensibility, &c. The lesions of the brain consisted in a notable quantity of serosity in the ventricles, a deposit of the peculiar yellow concrete matter at the base of the brain, some granulations on the convex surface of the arachnoid, which is dry and adherent to the cortical substance, but the consistence of the cerebral substance throughout good. The stomach also presented a lesion of importance.

Observation VI.—Bellavoine Jules, æt. 6, entered the 21st March, 1833. (Service of M. Bonneau.)—Habitually in good health, has had small-pox, but not measles. Two years since had an eruptive disease, (thick scabs,) on the face and head. During the last two months

frequent cough in fits, apparently hooping-cough, seven or eight returns of spasmodic coughing in the twenty-four hours, and easy respiration in the intervals; during the first four days vomiting, sometimes of blood; after each fit of coughing the blood was in considerable quantity, the parents estimate it as more than a pint in the first four days. He has not kept his bed, except in the first four or five days, but remained feeble and emaciated; no diarrhœa; cough diminished within the last four days; but vomiting frequent; rejects every thing he had swallowed; entire alteration of the countenance; constipation nearly constant within the last three months; mother died of phthisis a month since; has one brother fifteen months old in good health; not stated if other children have died.*

Present state, March 22d, at 6 P. M.—Hair brown; emaciation moderate; no cicatrices on the neck; face pale, slightly swollen; lips red, swollen, rather dry; decubitus on the right side, avoiding the light; aversion to motion or external impressions; pupils dilated, contract but little, strabismus especially of the right eye; conjunctiva little injected; mouth not distorted; answers indirect, limited to yes and no; no delirium; humour capricious; sensibility natural, rather increased than diminished; no rigidity; frequent low moans; complains of pain in the chest, and sometimes in the head; tongue deep red at the point, grayish towards the base, moist; he neither asks for food nor drink; deglutition possible; abdomen retracted, indolent; one dejection, but not liquid; pulse scarcely felt externally, feeble, impossible to count; respiration high, irregular, sighing with dilatation of the nostrils; skin dry, but not very warm. Cold gum water; neutral mixture of Riverius; pill. ext. cinchonæ et bellad. āā. gr. j.; cold chicken water.

23*d*. No vomiting; a small liquid stool; no cries; some convulsive movements of the limbs and eyes; deglutition nearly natural; at present face more coloured than yesterday; decubitus more abandoned; forehead not contracted; slight redness of the right conjunctiva, but not of the left; pupils dilated, the left more than the right; eyelids equally open, moveable; eyes rarely directed towards the objects around the patient, but moveable with strabismus; continual movement of the lower jaw, without grinding the teeth; slight depression of the left corner of the mouth; aversion to protrude the tongue, which is deep red, dry, with some whitish spots; right arm slightly

* This history was obtained before the patient was seen, consequently the attention was not particularly directed towards the cerebral symptoms; it is evident, however, that they are of the same date as the vomiting.

flexed, rigidity doubtful; left much more flexed, rigidity not doubtful; knees slightly bent; muscles of the spine a little rigid, tendency to inclination backwards; intelligence more obtuse; no answers; respiration sighing, irregular, 36; pulse insensible; pulsation of the heart 144; abdomen retracted; percussion sonorous anteriorly; respiration nearly pure, without a trace of mucus.

Evening. Skin cool; pupils more dilated; rigidity in both left extremities augmented; no other change.

24*th.* Same countenance; no cries or convulsion during the night; decubitus dorsal; head turned to the right side; mouth deviated towards the right side; occasional spasmodic contractions of the muscles of the right side of the face; strabismus; pupils much dilated, not contractile; purulent discharge, and slight injection of the conjunctiva; rigidity in both arms, but moderate; smart pinching necessary to make him withdraw them; no rigidity of lower extremities; movements of jaw ceased; skin dry, but not very hot; pulse insensible; respiration high, sighing; mucous and subcrepitant rhonchus in the posterior parts of both lungs; abdomen yielding, retracted, still grimaces on pressing it.

Evening. Same aspect.

Death 25th, at 5 A. M.

Autopsy 26th, twenty-eight hours after death.—Exterior. Emaciation; no lividity; muscles pale; no rigidity.

Head. Very little blood on the exterior of the dura mater; fibrinous coagulum in the longitudinal sinus; moderate infiltration into the great cavity of the arachnoid, and beneath the membrane; small and large vessels of the pia mater moderately injected; cortical substance rose-coloured, of nearly the same tint at the convolutions and corpora striata; medullary portion moderately injected, consistence every where good; no tubercles found either in the cerebrum or cerebellum, which is not injected, and perfectly firm; pons varolii and medulla oblongata same aspect; some serosity at the base; pia mater in the fossæ of Sylvius, and around the commissure of the optic nerves is slightly opaque, partly from the abundance of vessels, and in fact from a large number of gray semitransparent granulations of the size of millet seeds, hard, apparently tuberculous, and seated in the membrane itself. Spinal marrow firm, pale; membranes not injected; (state of the ventricles by accident not noted, probably offering nothing particular.) Larynx and trachea rosy, not ulcerated. Pharynx and œsophagus pale, sound.—*Thorax.* Pleuræ non-adherent; both lungs offer the same aspect, dark red externally and internally, contain much spumous reddish serosity, but are not hepatized, and every where are still permeable to the air. Numerous small tubercles and

opaque granulations are scattered throughout the pulmonary tissue, especially in the upper part of the right lung, where the largest tubercle is of the size of a large pea. Bronchi a little reddish, containing some mucus. Bronchial glands not noted.

Abdomen. Stomach moderately distended, containing a blackish liquid, and lined with viscid transparent mucus. The two-thirds nearest the cardia offer a general yellowish white colour, traversed by bands more yellow than the rest; the mucous membrane is evidently thinner in these bands than elsewhere, (demonstrated by detaching it in strips;) beneath this membrane exist many large vessels distended with blood, but the membrane itself is throughout of a dull, opaque white, and easily broken, but not adherent to the cellular tissue, so that the strips are still long, six to eight lines in length in the portion described. In the pyloric third, mucous coat of a reddish-yellow, or onion-peel colour, with some spots of dotted redness, and much mammillated; consistence a little greater. Small intestine. Contents moderately abundant liquid matter; internal coat rosy at the beginning, pale afterwards, of good consistence, yielding strips six to eight lines in length at the beginning, near the termination strips a little shorter, without change of colour; agglomerated glands not much developed, every where of a natural dotted blue colour; isolated follicles elevated near the valve, a large number in the duodenum; mesenteric glands augmented in size, containing tuberculous matter. Large intestine containing soft fecal matter; presenting some arborizations formed by the larger vessels in the cœcum and ascending colon; but the mucous coat is every where of pretty good consistence, yielding strips eight to twelve lines in length; isolated follicles not much developed. Liver rather voluminous, greasing the scalpel a little, of yellowish-red colour, containing some crude tubercles in its parenchyma and beneath the membrane; bile green, moderately abundant. Kidneys and bladder firm, sound.

The child was tuberculous, and in a much greater degree than the preceding cases; tubercles existed in the lungs, spleen, liver and mesenteric glands; the state of the bronchial glands is not mentioned in any notes, but they were undoubtedly tuberculous. I have not met with a single instance in which tubercles existed in more than one organ, without finding them in the bronchial glands, and not unfrequently as is seen in these observations, they are the only organ affected. The granulations at the base of the brain seem a lesion of too little importance to explain the symptoms, but as the object at present is anatomical classification for the conveyance of study, rather than the comparison of the symptoms with the lesions, I have concluded to

place this case in the first category. Besides we know too little of the value of lesions to mark out with rigour the distinction between the important and trivial, we must content ourselves with what exists, and afterwards seek the interpretation of facts. The symptoms were less characteristic than in some of the preceding cases, but sufficiently so to be classed amongst those of cerebral affections.

Observation VII.—Trehlue Jean, æt. 6, entered 13th of March, 1833. Vaccinated; his father does not know if he had measles; never had eruptions or glandular swellings; masturbation habitual during an unknown period. In April, 1832, attacked with cholerine, which lasted two months, (diarrhœa;) since then subject to colds, frequent pains in the chest and epigastrium, but rarely diarrhœa; never recovered his flesh. In January last severe cough in fits, which were very violent and often attended with vomiting, apparently hooping-cough; he left school for a short time, but returned to it in the middle of the month; appetite good; no diarrhœa. Four weeks since, pain in the thorax and epigastrium which continues; within the last three days vomiting of glairy matter, and finally of bile. Two other children in good health; none dead.

Present state, March 14*th, at* 4 *P. M.*—Hair dark brown; eyes closed; face pale, a little swollen; lips rosy, but rather pale; emaciation moderate; expression of feebleness and indifference; answers brief, languid; decubitus dorsal, indifference as to sides or elevation; intelligence extremely obtuse; frontal cephalalgia; tongue pale, rose colour at the edges, moist and grayish at the centre, papillæ elevated; abdomen yielding, seems tender on pressure; neither asks for food nor drink; pulse 104, small, quick; skin hot and dry; percussion and auscultation imperfectly practised, no rhonchus heard. Gum water; gum linctus with syrup of poppies, ʒij.; milk.

15*th.* No vomiting nor dejections since his entrance; stupor more marked; pulse rather more frequent. Same prescription.

16*th.* Same decubitus rather more abandoned; countenance rather more injected; stupor increased; aversion to all impressions; no coherent answers, except that he indicates in muttering that he has pain in the belly; pupils regular, contractile, but a little dilated; sensibility of surface natural, no rigidity; the hands offer an erythematous redness without much swelling, and not extending to the forearm; constipation; rarely asks for drink; tongue covered with mucus, brownish-red, dry and swollen; skin very hot and dry; abdomen retracted, yielding a slight pressure, especially at the epigastrium, causes grimaces indicative of pain; pulse 132, feeble and small; respi-

ration 20, irregular, sighing. Same prescription, with hot applications to the feet; diet.

17*th.* His father called to see him, but the child scarcely looked at him; same stupor, and profound indifference; eyes not altered; pulse and respiration as yesterday. Same prescription, without the opiate.

18*th.* Cheeks more highly coloured; lips rather pale; eyelids half opened; nostrils a little dilated; mouth not distorted; tongue covered with brownish mucus; teeth fuliginous; respiration irregular, high, 16; pulse 136, small, quick, regular; answers more distinct; he refers the pain to the abdomen, which is retracted and yielding; no typhoid spots; sensibility natural, no rigidity; skin hot and dry; constipation; percussion very sonorous on the left side; repiration very expansive, vesicular, strong, without expiration; on the right a little more feeble generally; in the superior half of the lung both before and behind the inspiration is feeble, less vesicular than on the left, and followed by a distinct expiratory sound; resonance of the voice impossible to examine.

19*th.* Same countenance and stupor; teeth fuliginous; tongue cleaning; constipation; some dry mucous rhonchus, (*craquement,*) on the right side of the chest. Gum water; gargle with solution of chloride of lime; sinapisms to legs; chicken water.

20*th.* A natural alvine dejection; same state of cerebral faculties; feebleness extreme; tongue dry and red; sensibility of abdomen persists; diarrhœa in the night, and death the 21st at 9 A. M.

Autopsy 22*d*, *twenty-four hours after death.*—Exterior. Emaciation advanced; no lividity or infiltration.

Head. No blood on the exterior of the dura mater; small coagulum in the longitudinal sinus. Arachnoid dry, adhering rather closely to the convolutions. On the inferior and middle part of the left hemisphere, beginning an inch from the median fissure, we observed a yellowish patch of irregular extent formed by a light yellow substance infiltrated beneath the arachnoid, of the thickness of one to two or three lines, adhering strongly to the cortical substance, and as it were infiltrated into its tissue; the cerebral substance beneath it, both medullary and cortical, but especially the latter, are softened to such a degree as to be crushed beneath the scalpel instead of yielding a smooth incision; the softened medullary portion has a yellowish tinge. In the vicinity of this substance are a number of little, hard, yellowish granulations adhering to the arachnoid, detached in raising it up, and seemingly deposited in its substance or immediately beneath it.

The same kind of granulations are found in the midst of the yellowish matter, but are still distinct and harder, resembling the yellow tubercles formed in the midst of gray infiltration into the lungs. The whole left fossa of Sylvius is filled with this same yellowish and greenish substance, which unites the edges of the fossa together, and extend to a little distance on each side of it, and containing the same kind of granulations; the contiguous arachnoid around the commissure of the optic nerves and the pons varolii is a little thickened. On the superior part of the right hemisphere, as well as in the fossa of Sylvius, numerous granulations, and with some little patches of the amorphous yellow substance, accompany the vessels, but adhere less to the brain. Pia mater generally more injected than usual. Cortical substance pale-gray. Medullary not dotted with blood; consistence good, excepting in the part described; septum lucidum and fornix firm, white; a spoonful, ʒiij. to ʒiv., of serosity in each lateral ventricle; very little serosity at the base. Cerebellum, pons varolii, and medulla oblongata, firm, not injected. Spinal marrow firm, not injected; a little serosity beneath the arachnoid.

Thorax. Lungs non-adherent; some tubercles found beneath each pleura. The upper lobe of the right lung towards its posterior part contains an opaque, hard tubercle of the size of a filbert; around it are several small, opaque tubercles, and a small empty cavity of the size of a pea; parenchyma not hepatized, but reddish, and containing much spumous serosity; the lower lobes, as well as the whole of the lung, offer numerous opaque tubercles scattered through a crepitant, sound tissue. Bronchial glands tuberculous. Larynx, pharynx, and trachea pale, not ulcerated: bronchi rosy.

Abdomen. Stomach, internally of a grayish-rose colour; of good consistence; strips of the usual length, a little mammillated around the pylorus; the mucous membrane presented seven ulcerations, four of them on the anterior face, the other on the posterior and in the small curvature; they are rounded, a line or two in diameter, with elevated edges, pale, bottom formed by the cellular tissue. Small intestine pale throughout, offering four or five little ulcerations of the isolated follicles, and one seated in a gland of Peyer. Mesenteric ganglia tuberculous, hard, yellowish. Large intestine, rosy internally, few follicles visible, consistence good. Liver voluminous, a little fatty, of a pale-yellow colour; the upper and lower surfaces offering a great number of tubercles, which are also numerous in the peritoneum lining the diaphragm—not observed in the liver. Spleen four inches long, firm, dark colour, literally filled with opaque tubercles, the largest of the size of large peas. Kidneys and bladder not noted.

The subject of the present observation presented *tuberculous* deposit in a large number of organs; in the brain the small granulations, which were harder and more rounded than those usually met with, were intermixed with a sort of plastic fibrinous substance apparently intermediary between the pseudo-membranes so often noted beneath the arachnoid and real tuberculous matter: was it really tuberculous, or are the yellowish-gray granulations analogous to those found in the lungs, and is the amorphous substance of the same nature as the deposits usually found in the cerebral diseases of childhood? The case must be compared with others in my possession, which will be published in the following number, and in which the meningitis was still more unquestionably tuberculous. The reader is probably struck in looking over these cases with the intimate connexion between these affections and tuberculous disease; he must, besides, remember that the cases which are given in this number are those offering the most unequivocal anatomical lesions without the presence of well-marked tuberculous or cancerous deposits of sufficient importance to render probable their immediate connexion with the symptoms.

Observation VIII.—Margotin Antoinette, æt. 8, entered the 17th of March, 1833. (Service of M. Baudelocque.) Details communicated by her mother, a woman of little intelligence. The child was nursed in the country, returned to Paris at the age of three years; has never had enlargement of the glands of the neck, nor convulsions, nor worms, nor habitual pains in the abdomen; never received blows on the head; always subject to an eruptive disease of the scalp, which has gradually diminished lately, had measles at the age of two years, and small-pox in September last, since that time health not perfectly recovered; frequent head-ache, returning every two or three days; diarrhœa from time to time, lasting about two or three days, and then ceasing; appetite great. In the middle of February somnolence with augmentation of the head-ache; anorexia within the eight days previously to admission, and constipation; on the 12th vomiting of the tisane given her, renewed every day since; no delirium, but cephalalgia constant.

Of six children one died at the age of eleven years of croup, the others are in good health, and have never had convulsions; the father died in the last summer of a cerebral disease, (diagnostic of the physician,) after an illness of one day—symptoms not recollected. Mother in good health.

Present state, March 17th, 1833.—Hair and eyes dark-coloured; skin brown; embonpoint moderate; no cicatrices on the neck; decubitus variable; face generally but moderately coloured; lips red, rather

dry, of middle size; eyes hollow, not injected, pupils contractile, eyelids half open; forehead slightly contracted; frontal cephalalgia, at times she applies her hand to the forehead as if from sudden increase of pain; mouth and tongue not deviated; nostrils not dilated; answers short, languid, but correct; says she could eat in reply to a question, but neither asks for food nor drink; sensibility and motion natural; somnolence alternating with agitation, from time to time she moves her arms and seems in a state of constant agitation; pulse very irregular, rather feeble, 68; respiration irregular, high, 12 per minute, at times stertorous; skin rather dry, not particularly hot; tongue moist, rosy at the edges, whitish at the centre, easily protruded; neither vomiting nor stools; urine rare; abdomen yielding, not tender; no typhoid spots or sudamina; percussion sonorous; a little mucous rhonchus in the large bronchia. Calomel, gr. xij.; purgative enema; eight leeches to anus; sinapisms to legs.

18*th*, 9 *A. M.* Pupils less contractile, the right a little dilated, strabismus moderate, eyes little sensible to the light; jaws strongly closed, impossible to open them; head inclined backwards; rigidity of muscles of back of neck; no rigidity of the limbs; sensibility a little diminished on the left side of the body; mouth seems a little drawn towards the right side; no grinding of the teeth; no answers, seems not to hear the questions; deglutition easy yesterday, now very difficult; agitation and moans during the night, these moans have the acute tone attributed to hydrocephalus; heat elevated, dry; no vomiting, two dejections after the enema; abdomen yielding, not tender; pulse 140, full, regular; respiration 45, precipitated. Repeat the calomel, gr. xij.; purgative enema; two blisters to the arms; sinapisms to lower extremities; seton to the neck.

19*th*, 4 *P. M.* Decubitus abandoned; complaints more rare; face a little livid; less contraction of the forehead; nostrils in motion; mouth still a little drawn to the right; pupils equal, contractile; sensibility a little diminished on the left side, with slight rigidity of the articulations of both arm and leg; same stupor, but rather less unmeaning expression; questions seems to be understood, but she replies with great reluctance—points to her forehead as painful, instead of speaking; sight preserved; occasionally grinding of the teeth; deglutition easy; heat elevated at the head but not in the extremities; pulse irregular, feeble, 120; respiration high, very irregular, 36; mucous rhonchus in both sides of the chest, especially in the upper parts of the lungs; no vomiting or dejections; urine twice, voluntary; abdomen yielding, not tender. Tisane; hot applications to legs.

20*th*. Pupils as yesterday, strabismus; face injected; understands

questions; complains of her head; less rigidity of the neck, none of the extremities; pulse 126; respiration 40, very high and irregular; abundant mucous rhonchus at the summit of the left lung; heat of skin moderate; one dejection; urine three times. Frictions with mercurial ointment; ox. antim. alb. ℥ss.; purgative enema; sinapisms.

21*st.* No rigidity; mouth a little more deviated than yesterday; replies, but with difficulty; still complains of her head; face rather more livid; senses as yesterday; mouth drawn more aside; cough rare, loose; pulse 160; respiration 40; abundant mucous rhonchus in the right lung generally, a little in the posterior part of the left; a stool before administering the enema, another after it; urine three times. Oxyd antimon, ℥ss.; mercurial frictions; purgative enema; sinapisms; infus. altheæ.

22*d.* Mouth less drawn aside; speech still embarrassed; tongue slightly deviated towards the left side; lividity of the face; complains less of his head; sensibility less on the left; respiration abdominal, high, 40; pulse feeble, small, 150; cough not very frequent. In the superior two-thirds of the posterior part of the right lung abundant crepitus and bronchial tubal respiration; one dejection after the enema.

Death the 23d.

Autopsy 24th, thirty hours after death.—Exterior not noted.

Head.—The great cavity of the arachnoid contains about a large spoonful of transparent serosity. The large and small vessels of the pia mater are much injected; convolutions depressed; the anfractuosities nearly obliterated at the upper part of the brain. The fissure separating the two hemispheres of the cerebrum at their anterior adheres closely together, so that the cortical substance is torn in separating the two hemispheres. The left fossa of Sylvius presents nothing remarkable; the right presents a number of whitish-yellow lenticular points of the size of millet seeds, of the same aspect as those found in the subjects of the preceding observations; the pia mater can be easily detached from the surface of the convolutions, and remove at the same time the granulations which adhere closely to it. At the base of the brain in general, and especially the commissure of the optic nerves, the arachnoid is injected, but not evidently thickened, and without trace of purulent or tuberculous infiltration. Ventricles not dilated, containing from one to two tea-spoonfuls of serosity. The cortical substance generally is more injected than in the majority of subjects; medullary much dotted with blood. Brain in general rather flaccid, but not evidently softened; consistence of the fornix and septum lucidum good. The membranes covering the cerebellum offer the same injection as elsewhere; its substance contains numerous

vessels, and is of good consistence. Pons varolii and medulla oblongata firm, not injected. Medulla spinalis of natural whiteness and consistence; membranes a little injected.

Thorax. Right lung adheres posteriorly; upper lobe rose-fawn colour generally, a little violet posteriorly; tissue in the anterior third is rosy, containing an abundance of spumous serosity; the posterior half and an isolated mass the size of a hazelnut in the middle portion is of a reddish-violet colour, with scattered yellowish points more prominent than the rest of the mass, (points probably caused by small portions of the parenchyma not hepatized,) very friable, not floating, containing no air; the pulmonary vessels are still visible in this portion. The middle lobe offers the same aspect as the anterior part of the upper. Inferior lobe every where reddish-brown externally, excepting the anterior border; tissue violet-red, with the same yellowish points as in the upper lobe, granulated, very friable, a slight pressure reducing it into a reddish pulp: in the upper part of the lobe, near its posterior border, I found a cavity of the size of an almond, containing a reddish-yellow liquid, not lined by a false membrane, the walls of it formed by the pulmonary tissue itself, some remains of which float in the cavity in the form of cellular filaments; this cavity offers no apparent communication with the bronchia. No traces of tubercles in the lung. Bronchia a little reddish in the upper lobe generally, of an intensely red colour in the hepatized part. In the lower they are compressed and flattened, but easily followed to their extreme ramifications, of a deep red colour, containing much yellowish mucus.—Left lung. Lobe superior externally of a light fawn-rose colour; some lobules at its anterior part are more prominent than elsewhere; the pulmonary vesicles are in this part distinctly seen, but not greatly dilated: a dozen transparent gray granulations are scattered beneath the pleura, they are hard and prominent, (tuberculous.) Tissue rosy, soft, containing much spumous serosity without tubercles or other granulations. Lower lobe soft, rosy, containing a little spumous serosity; posterior part reddish-violet, friable, containing no air, of the same aspect as the hepatized part of the right lung. Bronchia reddish, especially in the inferior lobe. Bronchial glands in part converted into tuberculous matter, the largest of the size of a large filbert; the other glands are of a dull-white, rather soft.—Heart. Left ventricle three lines in thickness at the middle; right, one line; internal membrane pale.

Abdomen.—Stomach middle size, containing a whitish matter. Mucous membrane generally of an opaque-white tint. In the great tuberosity the membrane has the same dull-white colour, is much

thinner than natural; some large veins are still visible beneath it, but the membrane although softened is more easily detached than usual, and yields strips five or six lines long: in the small curvature we found a few partial depressions, whose edges were a little elevated, rosy, the mucous membrane not entirely destroyed: in the middle of the posterior face the mucous membrane in the diameter of more than two inches is yellow, traversed by numerous small bright-red arborizations: mammillation in the two or three inches nearest the pylorus; consistence of the membrane normal, strips eighteen lines long in the small curvature. Duodenum contains numerous follicles, tinged by the greenish matter contained.—Small intestine. Rosy externally, containing a yellowish liquid; mucous membrane generally rosy—at the beginning of the jejunum it is red in an extent of three or four inches, the redness is bright and dotted; strips of the mucous membrane six or seven lines in the jejunum generally, rather less in the part that is reddened. Mucous membrane of the ileum rosy irregularly, covered with adhesive mucus; membrane a little softened, yielding strips only three or four lines long; the injection is more marked in approaching the valve. Isolated follicles numerous and prominent in the whole length of the ileum, at first red and prominent without evident connexion with the colour of the surrounding membrane; near the valve the follicles are yellowish-white at their centre, and are covered by a yellowish mucosity more adherent than elsewhere, and apparently a secretion from the membrane: two of the isolated follicles two feet from the ileum are ulcerated, the ulcerations rounded, edges elevated and reddish, bottom grayish, formed by the mucous membrane incompletely destroyed. Agglomerated follicles, (Peyer,) reticular, pale, not reddened nor thickened. Mesenteric glands small, pale-violet, not tuberculous.—Large intestine. Not distended, containing some greenish fecal matter; cœcum and ascending colon rosy, with some arborizations; mucous membrane firm, strips eighteen or twenty lines in length. Transverse colon pale, presenting a reddish patch a few lines in diameter: the rest of the intestine is pale, consistence every where excellent; follicles in the cœcum little developed, nearly invisible in the rest of the intestine. Liver middle size, yellow externally and internally; two substances distinct—greasing the scalpel a little. Gall-bladder moderately distended by a liquid greenish bile. Spleen four inches long, bluish externally, brownish-red internally, firm. Kidneys pale, firm. Bladder pale.

The child was feeble, *tuberculous*, as the autopsy proved; the cerebral symptoms were, however, not intense, and had notably dimi-

nished when the pneumonia supervened, and was the immediate cause of death. The cerebral lesions were slight, some may ask were they real, it is useless at present to discuss a question which can be completely resolved by comparing the facts; at present it may be well to mention that these granulations are peculiar to cerebral affections: I speak from memory, but the fact will be reconsidered. The abdominal lesions consisted in the softening of the mucous membrane of the stomach and the inflammation of the small intestine, especially the isolated follicles: the agglomerated follicles were sound, a fact which seem to prove the little connexion between their affections and those of the rest of the intestine. The large intestine, contrary to the more common rule, was not diseased.

Observation IX.—Landras Sophie, æt. 6½, entered the 2d February, 1833. (Service of M. Baudelocque.) Born at Paris, inhabiting one of the dirtiest and worst ventilated quarters, (cité;) vaccinated; has not had measles; her father thinks she has not had hooping-cough: subject to an eruption of the scalp, which disappeared within the last six weeks, after the application of an empirical ointment. The glands of the neck are augmented in size since the age of two or three years; not stated if chronic ophthalmia existed; a blister on the arm which had been kept open during the last two years has been allowed to heal since the disappearance of the cutaneous affection; ten days before admission anorexia without vomiting; complains of pain in the abdomen and head; convulsions repeated several times, marked by strong spasmodic movements of the face and limbs; no delirium nor cough; constipation; these symptoms persist notwithstanding an application of leeches behind the ears; has never had convulsions in infancy; lodges in a damp room on the ground floor; six persons sleeping in the same room; four children, the eldest eleven years old, three of them are girls, the others have neither had convulsions, nor enlargement of the glands nor eruptive diseases; details obtained from her father, whose intellect is too obtuse to render them certain.

Present state, February 3d, 1833.—Hair and eyes black; a little emaciation; face pale, a little yellowish; lips thick, pale violet; decubitus dorsal, abandoned; eyes hollow, surrounded with a dark circle; strabismus; pupils a little dilated, irregular, especially the right; mouth not distorted; nostrils contracted; from time to time abrupt spasmodic contractions of an isolated muscle of the face, (more frequent an hour or two since,) tongue easily protruded, not deviated; no rigidity of the limbs; sensibility of the surface generally augmented, rather than diminished; stupor constant, almost coma, aversion to all excitement or motion, but not ill humour; frequent sighs, with

feeble plaintive moans; incoherent muttering; answers brief, but correct; says she has pain in the head and abdomen, pointing to the umbilicus; no subsultus tendinum or floccilation; within the last two hours she frequently asks for drink; deglutition easy; no convulsions; tongue swollen, depressions in its edges corresponding to the teeth, grayish, moist; abdomen yielding, not distended; no dejections; neither sudamina nor petechiæ; pulse small, quick, 136; respiration sighing, 24; cough rare, loose; respiration ausculted anteriorly, pure; skin hot and dry. Warm bath at 9 A. M. and another at 5 P. M. with cold affusion on the head; vinegar poultices to feet; inf. tigliæ for drink; purgative enema.

4th, 8 *A. M.* Same appearance of the eyes; hands constantly applied to the head; forehead contracted; stupor increased; no longer asks for drink; no answers; muttering occasionally; night agitated, but without cries; motion and sensibility natural; respiration high, irregular, 16; pulse 124, small, feeble, regular; large evacuation after the enema; urine reddish, voluntary; repeat the baths, with cold affusion; inf. tigliæ; hot poultices to the feet.

5th, 4 *P. M.* Face more injected than in the morning; same decubitus, hands applied to the head; answers better than yesterday; features not distorted; pupils still moderately dilated, strabismus; frequent moans, but no cries; no convulsions observed by the nurses; no rigidity; sensibility and movement natural; still says she has pain in the head; subsultus tendinum very frequent at the wrist; does not ask for drink, but swallows easily and with avidity when the cup is put to her lips; pulse 130, quick, always regular; respiration irregular, sighing, 16; no cough; skin hot and dry; tongue moist, grayish, deviation towards the left side, doubtful; voice feeble, sighing; abdomen yielding, she gives no evidence of pain on touching it. Repeat the baths and hot applications.

Death the 6th at noon. The persons who saw her in the morning remarked no change.

Autopsy the 7th, twenty-two hours after death.—Emaciation not advanced; no lividity or rigidity; not infiltrated.

Head. Very little blood on the exterior of the dura mater; longitudinal sinus empty; arachnoid on the convexity of the brain perfectly dry, no effusion beneath it; surface of the brain smooth and uniform; anfractuosities almost totally obliterated; pia mater not injected, easily detached from the cortical substance; fluctuation of a deep-seated liquid manifest; no granulations or patches of false membrane beneath the arachnoid. The fluctuation was caused by about three ounces of limpid serosity accumulated in the lateral ventricles; fora-

men of Monro is much dilated, rounded, nearly three lines in diameter; fornix and septum lucidum soft, torn by a slight effort, but not diffluent. Corpora striata and optic thalami firm, not injected; cortical substance of the convolutions pale gray, slightly orange coloured, rather paler on the right than the left side; consistence throughout perfectly good; cerebellum equally pale as the cerebrum, not injected; near its superior face a little to the right of the middle, is a tubercle four or five lines in diameter, rounded, of a dull yellowish-white, contained in a thin but hard semicartilaginous cyst, from which it can be easily detached; the surrounding cerebral substance is neither injected nor softened. Arachnoid at the base of the brain a little milky, but contains little serosity; no traces of granulations in any part, or purulent infiltration. Spinal marrow of a light yellow or orange tint, not injected; consistence good. Larynx and trachea pale, not ulcerated. Œsophagus and pharynx same state.

Thorax. Right lung not adherent; pleura containing an ounce to an ounce and a half of serosity; upper lobe rosy, fawn colour anteriorly, violet posteriorly; in the anterior part the lobes are irregularly prominent, and vesicles a little dilated; tissue spongy, soft, containing much spumous serosity, but neither induration nor tubercles. Middle lobe same aspect, and equally sound as the upper; lower lobe a little reddish posteriorly, soft, a little more engorged than the upper lobes, but every where permeable to the air; no tubercles; bronchi very pale; left lung non-adherent, a little serosity in the pleura; upper lobe rosy, presenting along its anterior portion vesicles of the size of grains of sand, as in the right lung; perfectly permeable, without tubercles, but contain much spumous serosity; lower lobe similar to the lower lobe of the right lung, but also containing some nodules, dark red, not granulated, hard. Bronchi as in the right. Bronchial glands grayish, small, not tuberculous; but one near the right bronchus contains a little cretaceous matter; another of the size of a large pea is entirely converted into this substance. Pericardium contains but little serosity; heart a little larger than the fist of the subject; fibrinous coagula in both cavities, larger in the right than the left; thickness of the left ventricle two lines and a half, of the right a little less than a line; large vessels pale.

Abdomen. Stomach of middle size, containing much mucus, adhering strongly to the internal coat. The great tuberosity and cardiac half of the large curvature present an irregular thinning of the mucous membrane, in a patch three inches in diameter; colour pale, and in some parts the membrane scarcely exists, rendering the muscular fibres very evident; a few large vessels not dis-

tended with blood are visible beneath the membrane. No vivid injection, general aspect reddish-gray, (onion-peel;) consistence much diminished in the part that is thinnest, strips three lines, in the rest of the large curvature they are eight or ten lines long, and more than an inch in the small; mammillation not evident.—*Small intestine* not distended, containing a yellowish, moderately abundant mucus. Duodenum rosy, isolated follicles abundant, of the size of mustard seeds; some of them with central points. Intestine in the upper retains the rosy colour, is of a villous appearance, but contains few isolated follicles; pale afterwards, with no injection, of normal consistence, strips at first six or eight lines, a little larger in the ileum; a few isolated follicles were found in the last two feet. Agglomerated glands of Peyer begin in the upper third, forty of them were found, of a dull white colour, little elevated, (normal.) Mesenteric glands small, pale, gray, firm.—*Large intestine* not distended, containing soft fecal matter. Cœcum pale, but offering a few vascular ramifications, in the rest of its extent the intestine is pale gray; the consistence every where perfect, strips of the membrane varying from eighteen lines to two inches; thickness normal, increasing in approaching the rectum; follicles prominent, of the size of pin's heads, marked with a grayish central point.—*Liver* smaller than usual, containing little blood; substance brownish-red, firm; the two substances not distinct, firm. Gall-bladder small, containing a brownish-yellow bile.—*Spleen* two inches and a half long, reddish, firm, without tubercles.—*Kidneys* firm, a little livid.—*Bladder* moderately distended, pale, firm.

The antecedents of this case are defective, we know only that the child was ill lodged, belonging to the poorest class, and of course miserably fed; that she had had chronic enlargement of the glands of the neck. The commencement of the present affections was fixed by her parents at a very recent date. The cerebral lesions consisted chiefly in the effusion of limpid serosity into the ventricles, and dryness and adherence of the arachnoid at the surface. The stomach presented the partial thinness of the mucous membrane so often met with; the other viscera nothing remarkable. The subject was also *affected* with *tuberculous* disease; a tubercle was found in the cerebellum, and two of the bronchial glands contained cretaceous matter, the cervical ganglia were unfortunately not examined. The coïncidence of the disappearance of the external signs of scrofula, and the existence of cretaceous matter in two of the bronchial glands, seem to prove in this as in one of the preceding cases, that this substance is a form of one of tuberculous depositions.

Observation X.—Fortin Jean, æt. 4, entered the 4th of October, 1832. (Service of M. Bonneau.) Health generally feeble; character sad, morose; head large. On the 26th of September he complained of violent cephalalgia; skin hot; thirst; anorexia; agitation at night; vomiting at the beginning; stools liquid, not numerous; continued going to school, and did not keep his bed a single day.

Present state, October 4th, 1832.—Hair brown; skin dark-coloured; no œdema; head large; eyes closed, not injected; pupils contractile; answers slow, intelligence obtuse, but he is still able to refer the pain to his head; features not distorted; sensibility and motion natural; tongue moist, rosy; thirst moderate; abdomen developed, but yielding; the convolutions of the intestines easily felt; pressure not painful; skin hot and dry; pulse small, feeble, 104.

5th. Stupor increased; calm during the night; pupils contractile, not dilated. In the afternoon the coma was still more profound; countenance altered; pupils irregularly dilated; mouth covered with foam; jaws closed; at times grinding of the teeth; relaxation of the muscles, sensibility almost wanting; skin not so hot; abdomen yielding, but pressure upon it causes grimaces apparently from pain; pulse feeble, quick, 120; constipation. Prescription of the morning; two leeches behind each ear, and two to the arms; vinegar poultices to feet; oil mixture; tisane.

6th. Decubitus more abandoned; same colour of the skin; strabismus marked; coma profound; jaws strongly closed. At times spasmodic contractions of the muscles of the face; paralysis of sensibility and motion complete on the left side, partial on the right; pupils dilated, especially the left; pulse 160, small, quick; abundant liquid stools; abdomen retracted, not tender; cough frequent; mucous and sonorous rhonchus at the base of the lungs. Blisters to thighs and back of neck, with ammoniacal cerate; enema with camphor, gr. iij.

7th. Coma persists; slight rigidity of the left arm; sensibility seems more perfectly extinct on the right than the left side; heart elevated; pulse feeble, irregular, 160 to 180; several liquid discharges; the region of the occiput was vesicated by a compress dipped in boiling water; a slight motion of the body was the only sign of pain manifested; symptoms not changed during the day; at 5 P. M. cold clammy sweat over the whole body; slight convulsive movements of the face and limbs.

Death at 9 P. M.

Autopsy the 8th, twelve hours after death.—Emaciation advanced; livid marks upon the parts touched with hot water.

Head. Little blood exterior to the dura mater; fibrinous coagulum

in the sinus. Arachnoid moist; serosity beneath it more abundant than usual, especially on the right side, where it causes a semi-opacity of the arachnoid. Pia mater a little injected, easily detached from the cortical substance, which is redder than usual. Medullary rather dotted with blood; consistence perfectly natural. Ventricles extremely distended in approaching them, fluctuation very evident. In the two the total quantity of serosity was not less than six or seven ounces; it was perfectly limpid, and was almost entirely evacuated upon opening the ventricle on one side. Foramen of Monro two or three times its usual size; the septum lucidum and fornix were rather softer than usual, but not pultaceous; parietes of the ventricles not at all injected. Corpora striata and thalami firm.—Base. The arachnoid around the commissure of the optic nerves is thickened, opaque and yellowish, resisting the scalpel: the same yellowish tint, but without evident thickening, extends to all that part of the arachnoid bounded laterally by the olfactory nerves. Upon the superior part of the right hemisphere of the cerebellum there is a patch some lines in breadth, formed by the deposit beneath the arachnoid, of the same yellow opaque substance found at the base of the brain. The meninges elsewhere are neither thickened nor injected.

Larynx pale, not ulcerated. Pharynx idem. Right pleura generally adherent; left free; numerous tuberculous granulations beneath the right pleura. Right lung posteriorly much engorged, especially in the lower lobe, which still contained air, but was filled with reddish serosity; upper and middle lobes rosy-fawn colour, reddish posteriorly, but light, perfectly permeable to the air. Bronchi pale, not thickened. Left lung in its superior lobe less red than the right, but equally soft and spongy. Inferior lobe rosy anteriorly, reddish posteriorly, presenting an induration in the middle of the posterior part, the tissue of which is smooth, brownish, and resists strongly on pressure. Bronchi pale; no tubercles found in the lungs. Bronchial glands not tuberculous. Pericardium nearly without serosity. Large fibrinous coagulum in the right side of the heart; left nearly empty; tissue of heart firm.

Abdomen. Stomach contains only a little adherent mucus. Mucous coat of a reddish-yellow, onion-peel tint, generally with some dotted red patches scattered throughout its whole extent; thickness, but membrane generally softened, strips one line long in the great cul-de-sac, two or three in the great curvature, and about four in the small. Small intestine containing a yellowish, moderately abundant matter. In the upper half the membrane is grayish, tinged by the bile without arborizations, but softened, yielding strips only two or three

lines long—in the lower half about a line longer. A few isolated glands were developed at a few feet from the valve. Three of the agglomerated glands, (Peyer,) at two or three feet from the valve, were red and swollen; two of them are ulcerated, the ulceration on one is rounded with perpendicular edges, the second offers two ulcerations a line and a half in diameter, separated by a half-destroyed band; the redness of the bottom and edges is the same as that of the rest of the gland; the mucous membrane is entirely destroyed. The mesenteric glands corresponding to the ulceration are reddened, doubled or tripled in size, but not evidently softened. Larger intestine contains fecal matter without intense redness, offering a few scattered vessels, not thickened, but a little softened; strips one-half shorter than usual. Liver of a brownish colour, firm—the two substances not distinct. Spleen of middle size and firm. Kidneys sound.

Remarks.—This case offers some analogy with the preceding; the subject was apparently affected with chronic hydrocephalus, and was afterwards taken with the acute affection characterized by the effusion of the yellowish substance. The lymphatic glands were not tuberculous, but gray granulations were numerous beneath the right pleura. A singular complication in this case was the ulceration of the glands of Peyer, ulceration in children not absolutely peculiar to typhoid fever or tuberculous affections.

Art. IV. *On the Communicability of Cholera.* By S. Henry Dickson, M. D. Professor of the Institutes and Practice of Medicine in the Medical College of the State of South Carolina.

A VERY decided majority of the physicians of our country who have published notices of this justly dreaded pestilence, have agreed in denying to it the property of contagiousness. Nay, some among us as well as in Great Britain have gone so far as to arraign the ancient regulations of quarantine and sanitary cordons as useless, cruel and absurd; and to advocate their total abandonment. It must be allowed that these restrictions upon the freedom of trade, and the open intercourse so advantageous to all nations are inconvenient, and in a certain degree injurious and oppressive; but it behoves us to discuss the subject with the most deliberate impartiality before we assume the high responsibility of advising their entire abrogation.

No argument will, I presume, be required to prove the absolute

right of every community to protect itself by whatever measures may be necessary against the introduction of diseases susceptible of transmission through the ordinary channels of social and commercial intercourse. On the other hand it is equally admitted that to justify any government in the institution of such measures, a clear case must be made out, and positive evidence adduced of the communicability of a disease which may have been included in the limit of restrictions and prohibitions. I prefer to employ here the word communicable, in order to avoid for the present, at least, entering into the nice and difficult distinctions between contagion and infection.

I propose to make some remarks on this important question in relation to Asiatic or malignant cholera, with the purpose of drawing the ultimate inference, that if this terrible malady is capable of transmission through the ordinary channels of commerce, all communities have the right, and it is their duty so to obstruct these channels that the extension of the evil may be prevented. In other words it is my intention to show that the quarantine system in its bearing upon the subject of this essay, is reasonable and useful, and ought not to be abandoned or even relaxed, though in the details of the particular arrangements established in different seaports, I may agree with those who find much to censure.

Let us imagine that a government urged by its medical advisers, or disposed to decide a warmly-contested dispute, were to select place and circumstance for a fair and guarded experiment by means of which to test the communicability of any form of pestilence. Could a better plan be suggested than that a vessel sailing from an infected city, and freighted with diseased subjects, should be stranded upon the shore of an almost barren and scarcely inhabited island, where her fated crew should be met by a deputation chosen from the several classes of the population of a healthy town at a safe and convenient distance. Let us suppose that most of the very few residents of the island were attacked with the malady thus imported and previously unknown there, and that a considerable proportion of those sent from the neighbouring town were also seized in the same manner, and that such only as had thus held intercourse with the vessel and her crew, were throughout that whole region of country affected with the novel and well-marked disease alluded to. Would it not now be acknowledged that all doubt was at an end, all further argument unnecessary, and the question settled forever as to the possibility of importing and transmitting the pestilence experimented on?

It is probable, indeed, that discussions would still be carried on as to the particular modes of such importation and transmission, whether

by contagion or infection and the like, but the doctrine of its capability of being communicated would be placed beyond all denial or doubt. Such I conceive to be the fact in regard to cholera. An experiment has been tried very nearly, I think I may affirm precisely, such as I have just indicated, and I proceed to give the details, premising that I have drawn the following statement from the most authentic documents; the reports, namely, of the physicians named below, and the letters and other papers in possession of the city council of Charleston. The occurrences here recorded took place last autumn. It has been my intention from the first, to publish them to the profession, but I delayed writing in the expectation that our city like most others on this wide continent would suffer the ravages of the epidemic, and that opportunity would thus be afforded me of making further observations upon it. Nothing of this kind, thank God, has yet happened; and we are now indulging the uncertain and fearful hope that we may escape it altogether.

On the 31st of October, 1832, the brig Amelia, bound to New Orleans, after a tedious and stormy passage from New York, having sailed on the 19th of the same month, was wrecked on the beach of a low and sandy island, about twenty miles from Charleston, far out to seaward, and offering a very scanty vegetation. It is regarded by its owner, Mr. Milne, as quite a healthy spot, and resorted to by him as an agreeable summer retreat—four of his negroes being left upon it as permanent occupiers.

The brig had on board besides her ordinary crew, one hundred and five passengers, one hundred and two of whom were crowded into the steerage. During the voyage which was wet and tempestuous, they were much confined below, and when six days out became sickly. Twenty-four died on the way, and several were ill when she was stranded. The survivors were treated with the greatest humanity by the owner of the island, and took refuge in his buildings. The captain and one of the passengers came up to town with Mr. M. and reported the affair to the municipal authorities, who promptly entered upon the measures dictated by a correct and liberal policy. The deputy port physician, Dr. Elfe, visited the island, and announced the nature of the disease existing there. A boat's crew of wreckers who had gone down to the spot to pursue their usual avocation of saving the vessel and cargo, having returned to the city, one of them was seized with cholera, and died in Elliott street under the care of Dr. Schmidt. His was the only case which I had an opportunity of seeing, and it appeared to me well-marked and clearly identical with descriptions now familiar to every one. The rest of the crew were

ordered to the island to perform quarantine, and having embarked, two fell sick, and one died of cholera on the passage down.

Two physicians, Drs. Jewey and Pritchard, were in the meanwhile sent thither to afford the requisite medical attendance upon the sick; every thing necessary for their support and comfort being forthwith furnished as far as was in the power of our intendant and council, to whom all praise is due for their conduct on this occasion.

As neither the brig's crew and passengers, nor the wreckers, an additional number of whom had now gathered about the wreck under permission of the authorities, were willing to remain on the island under quarantine restrictions, eighteen men from the city guard, under the command of a lieutenant, were detailed to perform the duty of a cordon sanitaire in confining them there. These men were stationed between one hundred and two hundred yards from the sick, but in going to and from the landing they were forced to pass much nearer the building of one of the kitchens, which was used as a hospital; nor was it possible to prevent them from communicating with the passengers who were dispersed over the island. After the lapse of a week Dr. Hunt went down to relieve Drs. Pritchard and Jewey, who were worn out with continual and severe exertions. A reverend clergyman of the catholic church, Mr. Byrne, with the zeal and devotion of his sacred calling also visited the island, and remained to dispense the consolations of religion to the sick and dying. Now, let us see what was the result of this intercourse of a number of sound and healthy individuals within this infected vessel, and her diseased passengers and crew. Out of about one hundred and fifty persons collected on the island, twenty-three died, of whom twelve were passengers landed from the brig. Of the *wreckers*, the first to visit the vessel, and the most continually employed about her, some were almost immediately taken ill after their exposure; one died in town, one on the way to quarantine, and in all *eight*.

Of the *four* negroes on the island *three* died, one child and two adults. Of the guard employed on duty there, every man was affected more or less with the symptoms of cholera, with the exception of the commanding officer; nine were reported as attacked seriously, and *one* died; who, as Lieutenant Knights assures me, had never boarded the brig. Of the three physicians employed, Drs. Jewey and Pritchard escaped all suffering but that of extreme fatigue. Dr. Hunt reports himself on the 17th November as attacked by cholera, but quickly recovered.

I cannot help expressing here my sense of the merits of these medical gentlemen, whose humanity and ardour led them to renounce

the comforts and enjoyments of home, for an imprisonment on a dismal sand-bank, exposed to much privation, and to special hazard of sickness. Their conduct does honour to their profession, and to human nature.

Lastly, the nurse who accompanied Dr. Hunt was taken ill, and died. This man had been employed a week previous by Dr. Schmidt as a nurse to the only person who had the disease in the city. He had been assiduous in his attendance, and almost constantly engaged in the application of frictions until the patient died. Thus, there were *thirteen* deaths among the few who visited the island and the wreck.

Such as I have above stated are the simple facts; what are the reasonings and inferences fairly to be founded on them? I pass by all discussion of the *negative* circumstances of this remarkable case, as irrelevant to the question before us. The city of Charleston escaped without suffering the invasion of cholera, although the captain of the brig and a passenger came up to town and communicated with the authorities; although the deputy port physician returned home after visiting, examining, and prescribing for the patients; although the crew of a wrecking boat violated the laws, and returned also for a short time to their homes after boarding the stranded brig; although one of their number died in a very thickly-built part of the town; and although two or three of the individuals quarantined on Folly Island escaped to the main land.

I have no wish to subtract from the real weight and value of these circumstances. I rejoice to be led to the conclusion at which they clearly point, that like all other communicable diseases, cholera requires the concurrence of certain contingencies in order to give efficiency to its generating or exciting cause. Nothing is better understood than that some undefined condition is requisite to the transmission of every malady, whether regarded as contagious or infectious. The most universal of all epidemics, even influenza itself, does not affect every individual within the sphere of its prevalence. Small-pox is not always taken by the exposed subject; nay, inoculation often fails, however carefully performed, and with the most virulent matter; and I appeal to every physician of reading and experience if numerous instances of a similar nature have not come under his immediate cognizance. Thus, the man who died in Elliott street, though visited by numbers during his short illness of a few hours, was happily a cause of disease to no one, nor did those who evaded the imprisonment of quarantine spread it in any direction. We are entirely ignorant of the concurrent conditions essential to

the transmission of cholera, if it be transmissible; we know that they are not fulfilled in the above cases.

The *positive facts*, however, I repeat, are worthy of the most serious consideration on the part of all who are anxious to arrive at the truth. Cholera was unknown on our shores until the date of the unfortunate wreck of the brig Amelia on the beach of Folly Island. No local cause capable of originating such a disease is imagined to have existed on that island. Cholera prevailed at New York when the brig sailed from that port; the week before her departure fourteen deaths are recorded in the bill of mortality. Twenty-four of the passengers died of it on the voyage, and several were landed labouring under it. The first boat's crew of wreckers who boarded her were some of them attacked with the same pestilence which had prevailed at New York when she sailed, and of which her passengers had been ill and died. None of the other inhabitants of Charleston were seized in the same way, either at that time or afterwards; the conclusion is therefore irresistible, they received the infection from on board the brig.

The doctrine is now established beyond a reasonable doubt, that cholera is importable. It may be conveyed from one city to another by a vessel, or it may originate during an unfortunate voyage on board a vessel which shall not only disease her passengers, but infect persons who venture on board of her in perfect health on her arrival in port; in either case the vessel herself, or the atmosphere which she contains, shall be in a state capable of communicating the disease to those who visit her. Cholera is therefore clearly a proper subject for quarantine regulations, and these should be strict and perfectly effectual. Restrictions which are useful in their tendency, and necessary to an object, are in every sense justifiable; such only as are inefficient are wrong and oppressive.

It is of little consequence comparatively to inquire what was the cause of cholera on board the brig. She either left New York with a choleric atmosphere filling her hole and cabin, &c. or her passengers and crew were previously infected with cholera and ready to be diseased, or cholera was in some inexplicable manner generated within her during her stormy passage. If the latter, the process must have been very rapid indeed by which her confined atmosphere was contaminated in this peculiar way, for her captain deposed before council, that "the sickness commenced on the sixth day out."

I will not venture to deny the possibility of the spontaneous development of malignant cholera either in the steerage of a ship or in any other specified locality. Every thing must have a beginning—

cholera must have commenced either at Jessore, or at some other place or places, nay, there must have been a first and therefore spontaneous case of small-pox itself.

My principal object was to prove that cholera is communicable by or through a vessel containing sick patients or infected air. From the sufferings of the wreckers, as related above, it is reasonable to infer that if our municipal authorities had been so negligent of their duty as to have allowed the Amelia to have entered our harbour, (as the captain had intended,) and laid at one of our wharves, she would have been to our city, as to the desolate and distant island where she was stranded, a focus of pestilence, and spread throughout our terrified population disease and death.

But it would appear further, that not only the wreck of the brig, but the sick on the island were capable of communicating the disease to those who held intercourse with them. The wreck was burnt on the 8th of November; new cases of cholera continued to occur until the 17th, not only among those who had been on board of her, but in some who had never visited her.

Dr. Hunt reports himself as taken ill on the 17th; his nurse died on the tenth, never having boarded her. Of the *four* black residents on Mr. Milne's property three died, two adults and a child, of whom it is not known that they ever went on board of her. Of the eighteen guards nine were reported ill, and one died, of whom I have already mentioned that his officer assured me he had never visited the wreck. On the 19th of November the surviving passengers of the ill-fated vessel took passage on board the Cicero for a southern port, and the malignant disease disappeared from our shores, may we venture to hope, forever.

Let me observe that it is admitted by all, whether or not they acknowledge the contagiousness of cholera, that there were cases among those who had not exposed themselves to the vitiated atmosphere of the wrecked vessel. Dr. Jewey, in a note to me remarks, "during my stay on the island, those who were attacked were *generally* such as had visited the brig—there were however some exceptions." From Dr. Pritchard I have a similar statement. In the first report to council from Dr. Hunt, he says, "several of the inhabitants of the island have been attacked, and died without ever visiting the wrecked brig."

In explanation of these undenied facts, it has been suggested that the contaminated atmosphere of the vessel may have been wafted to the shore by favourable winds. This was possible perhaps before her destruction by fire—but how can we account for the cases which oc-

curred after that event which took place on the 8th. We have seen that new reports were made at least until the 17th.

It seems to me abundantly evident that we must attribute these at any rate, if not all such as occurred among those who staid ashore on the island, to mere intercourse with the *sick*. I will not say how—in what specific manner these unhappy individuals became the medium by which cholera was communicated to others previously in good health; whether by the generation of some impalpable but poisonous effluvium in their own persons, or by the mere conveyance of some portion of contaminated air. It suffices to know that approach to and contact with them were dangerous; that they must be regarded either as fomites or as generators of a contagious virus. Let me not be told then, that their seclusion and temporary confinement under quarantine regulations, are either unnecessary or oppressive. Such restrictions to be effectual in limiting the spread of pestilence must extend to *persons* as well as to *things*, and are not only justifiable but absolutely humane.

On the whole, I cannot but think that a strong case is made out in the preceding record. That cholera is *importable*, and was in this instance *imported*, is not to be denied; that the same thing may occur again and elsewhere, is equally clear, and all governments ought to be aware of the fact, and to institute and establish on a permanent basis the proper and necessary measures of prevention.

That cholera is *contagious* seems to me also to be proved by the above history, and this conclusion can only be evaded by taking shelter in the minute and interminable discussions as to the numberless distinctions suggested between contagion and infection. Such distinctions are however after all, rather etymological than practical, and ought by no means to be permitted to influence the decision of the great question of the propriety and necessity of quarantine regulations.

Charleston, October, 1833.

Art. V. *Cases of Deranged Menstruation, with Remarks.* By Harvey Lindsly, M. D. of Washington, D. C.

THERE is perhaps scarcely any disease to which the human frame is liable, that has attracted more attention, and the treatment of which at the same time is more unsatisfactory and unsettled than the one on which I now propose to make a few remarks.

From the earliest periods it has justly been considered one of the

"opprobria medicinæ;" and although it has since employed the talents, and occupied the attention of some of the ablest men our profession has produced, we are still far from having devised a sufficient and successful mode of treatment.

The two principal varieties of deranged menstruation, viz. amenorrhœa and dysmenorrhœa have always presented great and occasionally insurmountable obstacles to every plan of treatment however varied and well devised. And perhaps no stronger proof could be adduced of the inherent difficulty of managing these forms of disease, than the almost innumerable remedies and specifics, which have from time to time been recommended for their cure, and which after a more thorough trial have lain neglected and forgotten. Doubtless one cause of the discrepancy in the mode of treatment in these cases, as in many other instances in our profession, is the want of precision and accuracy in the description of diseases, and the still more unfortunate defect of observation and close attention on the part of too many practitioners of medicine.

No mistake is more dangerous and sometimes even fatal, and at the same time more common in our profession, than that made by the mere *routine* physician, of prescribing the same medicine, for what he considers the same disease in different patients, without scrutinizing and weighing those nicer shades and peculiarities of constitution and habits, which exert so great an influence in modifying disease; and which, with every judicious practitioner, exert an equal influence in regulating the treatment.

This principle is of peculiar importance to be kept in view in the management of deranged menstruation, for few diseases incident to the human frame, present a greater complication of mischief, or are more apt to be accompanied by general disorder of the system than the one of which we are speaking.

Every medical man must have noticed with pain and mortification, the frequent failure and great uncertainty of the ordinary means for relieving this source of pain and unhappiness to the female sex, when prescribed in the ordinary way. As the difficulty is often one of long standing, (for being attended at first with but little pain, it does not readily attract the attention or excite the fears of the patient,) before application is made for medical aid, is it not natural, that generally speaking, a long-continued and persevering administration of remedies should be required for its relief? And is not the failure so often witnessed of our remedial agents, rather to be attributed to the irregularity of their administration, and the shortness of the time during which they are given, than to any inherent want of efficacy in the

medicines themselves? If instead of continuing a course of medicine a few days, and then giving it up in despair, because it does not accomplish every thing we could wish, we should persevere in its use for weeks, and if necessary even for months, I am persuaded we should more frequently relieve our patients, and have less occasion to complain of the uncertain and variable effects of emmenagogue medicines. If this principle were steadily kept in view, perhaps we should find it of less importance than is generally imagined to make a selection among articles of this class, and probably many of them administered in this way, would be found to answer our purposes, which are now condemned as inert and useless.

So far as a decided opinion could be formed, from the few trials it has been in my power to make, I am inclined to prefer equal parts of aloes and myrrh, (generally premising venesection or calomel, should the state of the system require either or both,) a pill of which should be taken every night and morning, and continued if necessary two or three months. In cases of amenorrhœa I have invariably found this simple course sufficient to bring on the menstrual discharge, except in those hopeless instances, where the constitution is completely undermined, and where pulmonary phthisis or some other structural derangement is rapidly bearing the patient away.

The following cases are subjoined, not from any particular novelty in their symptoms or mode of treatment, but with a hope that they may possibly excite greater attention on the part of some of the profession to a train of maladies, which, in their immediate and remote consequences, are among the most distressing to which the female sex is exposed.

Case I. The patient was a young lady, sixteen years of age, of rather a delicate constitution, and nervous temperament. When first called to see her, she had been labouring under amenorrhœa for five months. She was troubled with great difficulty of breathing; her general health was much impaired, spirits depressed, and indeed was so ill that her friends were almost despairing of her recovery. She had had medical aid, and had taken a good deal of medicine, but apparently without any benefit. As she had already been bled, and was much reduced by the depletion she had undergone, I commenced immediately with the aloes and myrrh:—℞. Aloes, Myrrh, āā. gr. xxx. Ft. pil. No. xv. Of which one was to be taken every night and morning. At the same time I directed her to take as much exercise as her strength would permit in the open air, both on horseback and in a carriage. After pursuing this course for three weeks, she had a regular menstruating period—her general health was restored, and she

has remained free from this difficulty ever since, although this occurred in 1829.

Case II. On the 10th of February I was called to see E. D. an unmarried woman, aged thirty. Constitution naturally robust and hardy. She had had a suppression of menses for six months. Upon examination, I found a large ulcer on each leg near the ankle-joint. Her general health was much affected by this combination of disease; appetite bad; tongue furred, and whole system greatly debilitated. I directed fifteen grains of calomel with castor oil, and a charcoal poultice to each ulcer.

14*th.* Ulcers better, but in other respects little alteration. Ordered pills of aloes and myrrh as in Case I. I also directed two blue pills to be taken every day, and some local application to the sores.

20*th.* Mouth slightly affected. Discontinued blue pills; aloes and myrrh still given. Ulcers improving.

April 1*st.*—The pills have now been taken with regularity for nearly two months; menstrual discharge has come on in natural quantity; ulcers well, and general health restored.

Case III. This patient had been married several years, and was the mother of three children. Had been afflicted with amenorrhœa five months. General health greatly impaired. I directed a dose of calomel, and the pills of aloes and myrrh as in the preceding cases, and succeeded in two weeks in bringing on the menstrual discharge.

Various other cases with the same general features might be added, but as they vary is no essential particular from the foregoing, it is unnecessary to insert them.

The *permanent* cure of the more aggravated forms of dysmenorrhœa, especially when of long standing, is perhaps more difficult and of rarer occurrence than of amenorrhœa. We have yet much to learn, both as to the pathology and treatment of this distressing malady—a malady, which perhaps inflicts more pain and suffering on its unhappy victims, than any other "in the whole catalogue of human ills."

Much has of late been said and written in favour of the vol. tinct. of guaiacum as a remedy in dysmenorrhœa, and indeed by some of our popular writers, its remedial powers are held in such high estimation as to be regarded almost a specific. In the following case a trial was made of it, and the result, with many other instances of the same kind, appears to us to show that too much dependence has been placed on its emmenagogue virtue. Whether the aloes and myrrh, or indeed any other mode of treatment would have been more successful, was not in my power to determine, as the patient left the city in a short time after finishing the course of the guaiacum.

Case IV. Mrs. H. aged twenty-seven, of a delicate constitution though generally enjoying pretty good health, applied for advice, (November 21st, 1831,) under the following circumstances. She began to menstruate at fourteen—the discharge was in every way natural and free from pain until about six months before her marriage, (which took place at nineteen,) when she had a very painful menstruating period, and from that time has menstruated once in *three* weeks, and has always suffered much pain during the flow. She has never been pregnant. When I was first called to see her, she was labouring under a very severe and exceedingly painful attack of dysmenorrhœa, of which, however, she was soon relieved by venesection, cathartics, and anodynes. I next directed a strict regimen for a week, and then commenced a course of vol. tinc. guaiaci, prepared according to the following formula:—℞. Pulv. g. guaiac. ℥iv.; Carb. sod. ʒiss.; Pulv. piment. ℥i.; Alcohol. dilut. ℔i. Digt. To this was added the volatile spirit of ammonia in the proportion of a drachm and a half to four ounces of the tincture. A tea-spoonful of this preparation was taken three times a day.

December 22d.—Has menstruated once since the course was commenced, but with little or no abatement of pain. Prescribed a large Burgundy pitch plaster to the loins, on the principle of counter-irritation.

March 1st.—This remedy has now been taken regularly for more than *three* months without any benefit, its discontinuance is therefore directed. As remarked above, the patient left the city in a few days, which prevented the trial of any other remedial course.

Art. VI. *On the Circular and Flap Operation.* By R. Tolefree, Jr., M. D.

If the time of amputating after a sufficient injury has given rise to discussion, the manner has furnished equal cause for controversy. Parties in our profession array themselves against each other without sufficient reason; and if a favourite leader only proclaim some novel or antiquated doctrine, the sound is considered the signal for the onset; pens are sharpened, and paper is spread to be stained with the effusions of malice, anger, and despair. We have desired in vain to see an end of these petty feuds, and the abolishment of medical clans, the existence of which perpetuates hostilities, and embitters the temporary intercourse necessary among practitioners. We cannot solace ourselves with the hope of realizing the desirable advent of the hal-

cyon days of medical union and brotherly love. Early education often shackles us with partiality, while similarity of sentiment begets respect and blinds us to truths, because they are unlike those we have cherished. National prejudices conspire to strengthen sectarian views; time increases our attachment to the deformed child we may have adopted, and hostility or the enmity of our neighbours only causes us to hug the imagined beauty more closely to our bosoms. These feelings have had no small share in producing the discrepancy between the exclusive defenders of the circular or flap operation. Sir George Ballingall, in his late work on Military Surgery, has entered the arena to close the contest, and while his object is commendable, his conclusions appear to us erroneous. We will cite the professor, page 60, Military Surgery.

"I know of no comparative estimate of the results of amputations performed by the circular incision and by the double flap, which will enable us to decide their respective merits by the test of experience; but in instituting any comparison between these operations, one of the first circumstances which strikes a surgeon is the different extent of cut surface left by one operation and the other. It has long appeared to me that the difference in this respect is much greater than many surgeons are aware of; and I have often remarked, that the extent of cut surface exposed by the double flap operation, appeared to me nearly double that left by the circular incision. I was not however aware, until within these few days, that in making this statement I was so near the truth. Wishing to ascertain the relative proportions *with precision*, I submitted the matter to two scientific gentleman, Mr. Robinson, Secretary of the Royal Society, and Mr. Russel, the lecturer on Natural Philosophy, each of whom came to the same conclusion. Supposing the limb cylindrical, and the amputation performed in the old way, by cutting at once down to the bone, and then dividing it by the saw, the cut surface exposed would be the least which it is possible to expose by any mode of operating. Supposing again, that the limb is amputated by the double flap operation, and that the length of each flap is exactly equal to the breadth of its base, the quantity of cut surface exposed by this operation would be rather *more* than double that exposed by the former. Or in other words, supposing the limb to be cut represented by a cylinder three inches in diameter, then, if the section be made at right angles to its length, the area of the surface exposed will be 7.05 inches nearly. If the section be made again by two flaps of the proportions formerly mentioned, the area of the surface exposed will be 15.5 inches, nearly being the area of an ellipsis formed by the section of a cylinder whose length is twice its diameter."

The professor supposes what cannot happen, that the stump in a single circular incision shows a smooth face like a board or stick, and this surface is perpendicular to the length of the bone; and he also supposes there is no retraction of the muscles to make the incision have an irregular aspect. Both of these assumptions are at variance with facts, and we cannot grant the doctor what he requires in support of his inferences. Let us, however, take the circular operation

with a double incision, and we will see the difference between it and the double flap; and at the same time allowing the doctor's manner of reasoning to be adopted. I will commence with the double circular incision, and follow the best authorities in their direction for operating. S. Cooper says, "In a thigh of ordinary dimensions, the first incision should be made four inches below where it is intended to saw the bone." Let us suppose the limb to be 18.8496 inches in circumference, (and this is not far from the ordinary periphery of the thigh at its upper third,) and dividing this number by 3.1416, we have a diameter of six inches. The figure presented by the stump in this operation we will give in the words of Guthrie. "It is generally allowed that the appearance of the stump when the bone is sawed through should be that of a broad inverted cone, the bone forming the apex." Here we have a cone by the circular operation, the distance of which from the centre of the base to the apex being four inches, and half its base is three inches, and these two lines, (distances,) form the base and perpendicular of a right-angled triangle, from which data we can find the hypothenuse or slant height of the cone. Thus, the square of 4 added to the square of 3, equals 25, and the square root of 25 is 5, which is the slant height of the cone. Now, to find the convex surface of this cone, you must multiply the circumference of the base by the slant height, and half this product will be the superficies required. Thus $18.8496 \times 5 = 94.2480 \div 2 = 47.1240$ inches, the surface of a stump from the circular operation. In this supposition we have considered the limb to be amputated a perfect cylinder, but it must be recollected that it is more or less conical, and having the base towards the body, it will consequently increase the size of the surface of the circular operation, and diminish, according to the decrease of the circumference of the limb, the surfaces of the flaps. This consideration has been lost sight of in the computations, and in some situations it has more bearing on the question than many imagine. We will not dwell on this, but follow the professor in *his own manner* of calculating. Let us in the second place compute the surface of the double flap on the very principles the professor establishes, "that the length of the flap is equal to the breadth of its base." We would simply remark that this length of flap is more than is required in every situation, and without entering the contest either as exclusive defenders of either operation, or being ranked among the supporters alone of Gallic or British practice, we as a third party, enjoying the advantages of the experience of both sides of the British channel, should weigh, candidly and logically, the disputes of our transatlantic brethren. Let us say, however, with the Doctor, that the flaps are elliptical, and we must necessarily have two elliptical

segments in each of which we have the conjugate diameter as a base equal to six inches, and we have half its transverse diameter equal to six inches, making the whole transverse diameter, if the figure were complete, twelve inches. It is plain, that if the base of these segments were in coäptation, and their surfaces in the same plane that the figure would be a perfect ellipse, the surface of which would be equal to the inner surface of the two flaps.

Multiply the transverse by the conjugate diameter, and this product by the decimal .7854, and the surface of the ellipse is the result. $12 \times 6 = 72 \times .7854 = 56.5488$ inches, the surface of the two flaps.

With this mode of calculation a small difference exists in favour of the circular incision. It is, when stated in round numbers, about 47 for the circular, and 56 for the flap operation; or to state it so as to be better recollected, we may say that the surface of the circular wound, after the operation, is to the flat surface, as 4 to 5. The reader in this computation must not forget that those who calculate in the manner of Sir George Ballingall, base their reasoning on the supposition that the stump of the bone is cut in a pyramidal shape, when the truth is, it is the same as in the circular operation. These are trifling considerations by themselves, still when accumulated they are of considerable moment in the comparison.

We trust that by giving the steps of our calculations, we have avoided all the vagueness which has been thrown around the subject, and we must consider the differences of opinion have not arisen so much from prejudice as thoughtless conclusions. Dr. Ballingall would persuade his auditors and readers, that the flap operation presents a surface more than twice as extensive as the circular operation; while Dr. George Bushe, in the Lancet, in his article on amputation, would wish us to believe that it was a self-evident truth, neither requiring reasoning nor computation, that the double flap amputation leaves a smaller surface than the circular incision. Both are wrong, for the first would teach that the hypothenuse of a right-angled triangle is greater than the sum of the base and perpendicular; while the second maintains that the hypothenuse of a right-angled triangle is less than either the base or the perpendicular. I will not dwell on other points in the comparative merits of these two operations; they have been ably treated by others; and if the remarks I have made will contribute to settle the difference, I will consider it "pretium operæ."

New York, December 17th, 1833.

ART. VII. *Case of Ununited Fracture of the Os Humeri, Successfully Treated by the Injection of a Stimulating Fluid into the Wound.* By ISAAC HULSE, M. D. Surgeon U. S. Naval Hospital, Pensacola.

ISAAC HARDING, seaman, æt. 25, fell from the mizen-top-sail-yard of the U. S. ship Vandalia, on the night of the 29th of November, 1832. He lighted upon the captain, by which probably, he escaped instant death. On taking him up it was found that the os humeri was fractured four inches above the olecranon, the fractured end of the inferior portion protruding through the skin. He received by the fall a concussion of the brain, and several bruises of the scalp and of various parts of the body. Delirium was the consequence, and after some days erysipelas of the scalp. He was bled and placed on the antiphlogistic treatment by Dr. SPOTSWOOD, who was the surgeon on board.

On the 9th of December following he was admitted into this hospital. Symptoms on admission—pain in the head; vessels of the conjunctiva turged with blood; occasional delirium; throbbing pulse; the antiphlogistic treatment was continued.

Two months after the reception of the injury his health was restored, but no bony union was formed, and I thought of resorting to the seton of Dr. PHYSICK. I, however, adopted a plan with a similar intention, viz. that of daily injecting a stimulating fluid into the wound, which still remained open, and had become fistulous. I began with port wine and water, proceeded to salt and water, and eventually to a solution of sulphate of copper. In two months a firm union was established, and the patient was able to exercise the arm at driving nails and other occupations requiring a strong action of the limb. The fistulous opening continued, and about two months since a small fragment of bone presented at the orifice, and was taken out. On the 25th instant it was observed that another fragment was advancing towards the surface; it was removed by the scalpel; one end of it was found resting upon the shaft of the humerus, and the other lying in the sinus. It was an inch and a half long, and one inch broad.

It seems very probable this last step will lead to a complete cure of the case.

I am not aware that this plan of remedying artificial joints has been practised by any other; yet it may be a question whether the union in this case is to be attributed to the injections or to the fragments of bone keeping up irritation by their presence. In opposition to the

latter supposition it may be asked, why did they not promote the object from the beginning? If the decision is given in favour of the injections, we may be enabled to exhibit them in cases where there is no fistulous opening, by passing in an instrument till it comes in contact with the interstitial substance between the fractured extremities of the bone, and inserting a tube to be kept constantly applied, through which the injections may be thrown. I think they will be found to excite an inflammation more extended, and with more certain success than the seton.

In these suggestions it is the furthest from my views to detract from the merits of our distinguished countryman, who has made a discovery valuable to surgery, for which he commands a tribute of respect from both hemispheres; on the contrary, it is acknowledged, his inventive genius has led to the present experiment and reflections.

U. S. Naval Hospital, Pensacola, Sept. 30th, 1833.

Art. VIII. *Observations on Scarlet Fever, as it Prevailed in Augusta, Georgia, during the Winter and Spring of* 1832–33. By F. M. Robertson, M. D.

As it is not our intention to enter into a detailed treatise on scarlatina; the observations contained in the present article will be confined to the disease as it appeared in this city and its vicinity, during the last winter and spring.

Scarlatina made its appearance in Augusta about the 20th of December last, (1832,) and has continued with more or less violence up to the present time, (May 1833.) Few families have escaped. In some, the disease occurred in its most benign form; in others, it assumed a most dangerous character. Occasionally only one individual in a large family was affected with the disease, and in other instances it gradually progressed through large families; each member, one after the other, suffering from an attack. It may be proper to remark, that it had been prevailing in the upper counties of Georgia, some time before its irruption here. In fact, during the whole summer of 1832, frequent reports reached us of its extensive prevalence in various parts of our country.

The disease manifested itself in our city in all its various grades, from the most simple form, up to the most malignant and dangerous. Some families had it so slightly that little medical aid

was found necessary, while their near neighbours were called to lament the loss of one, two, and, in some instances, three children The three varieties, as described by Dewees, Eberly, and other writers, were well marked. They are, however, but different degrees of the same disease, without any radical or essential difference in the nature or seat of the primitive derangement. The identity of diseased action, as modified solely by the degree and seat of the primitive derangement, has been well established, and, by rigid analysis, many diseases which have heretofore been considered as essentially different in their nature, can be reduced to the same modification of the physiological state of some one of the organs or tissues. We adopt the division of the disease into *Scarlatina simplex*, *Scarlatina anginosa*, and *Scarlatina maligna*, merely on account of the assistance it affords in drawing up our plan of treatment, and not in consequence of any essential difference in their nature, for they are identical, owing their ultimate differences entirely to the difference of the degree of intensity of the derangement of the tissue first affected. Dr. Dewees describes the three forms, as follows:—

"By *Scarlatina simplex* is to be understood the simple constitutional disease, without any morbid affection of the throat. By *Scarlatina anginosa*, a high degree of the same disease—the throat being at the same time inflamed and swollen. By *Scarlatina maligna*, the same complaint, in still greater violence—the throat being affected, or otherwise, the symptoms malignant."

As we merely intend giving our own views as to the nature, and more particularly, the treatment of the disease, we will not enter into a detailed account of the symptoms peculiar to each form, but merely notice the varieties that occurred in the cases which came under our observation. We shall speak, therefore, of what we have seen, and not of what we have heard.

It differed in no essential particular from that described by the numerous writers who have noticed the affection. It generally made its appearance by a chill or chilly sensation, nausea, vomiting, and, in some cases, slight diarrhœa; fulness about the head, particularly in the region of the orbits and frontal sinuses, and, in almost every case, more or less prostration of muscular energy. In the simple form, the eruption generally came out from the second to the fifth day. There was no regularity in the time of its appearance. On examining the tongue, it invariably presented the peculiar appearance noticed by most writers on scarlatina. Even in the mildest cases the tongue was covered with a white fur, with the elongated papillæ projecting above it. These papillæ were generally of a vivid scarlet hue, and appeared as though the apex of each one had been removed by a

pair of bone-nippers, or some such instrument, which gave them a truncated form. In the anginose, and more violent forms, this peculiar appearance was more striking; the tongue was covered with a thicker and darker coat, while the elevated papillæ and its borders presented an intense scarlet hue. On examining the throat, the whole surface of the fauces will be found to present a streaked-red appearance, extending over the soft palate and uvula, and in some cases, as far back as can be seen. In some instances, the soft palate and uvula are relaxed; in others, the inflammation appears to be more confined to the tonsils, which are often so much swollen as to render deglutition almost impossible. In some instances no sloughs or ulcerations were observed; but a general inflammation of the mucous membrane lining the fauces, with a copious secretion of ropy, tenacious mucus, which impeded respiration and deglutition. In other instances extensive sloughs were thrown off from the eighth to the ninth day. The redness of the throat appeared more diffused and intense, and often the coat would scale from the tongue and leave its surface of a vivid scarlet hue, appearing as though the whole extent were studded with granulations. In some cases the ulcers were confined to the tonsils, from which there was a copious secretion of glairy, tenacious mucus, which was brought up with much difficulty. We have seen the whole interior of the mouth in some cases assume a dark or livid appearance; in these cases the breath was remarkably offensive. With regard to the state of the circulatory apparatus after the chill or chilly sensation has passed off, and the fever comes on, our observations accord with the following remarks of Dr. Dewees:—

"The reäction of the system being now completely developed, the pulse exhibits the character which belongs to the existing form of the disease—preternaturally frequent, quick, and active, though still moderate if the disease be *simple.* More frequent, irritated, and tense, if it be *anginose*—of greater frequency still, but not so full, resisting, and firm, if it be *malignant.* The temperature of the body, the thirst, the scurf on the tongue, are also graduated in the same way; each symptom increasing in intensity, according to the augmented violence of the case."

The eruption presented considerable varieties in its appearance. In many cases, it was generally diffused over the entire surface of the body; in others, it appeared on different parts—thicker in some than in others. In the malignant form, it was seldom developed distinctly; it had more the appearance of large patches, of a purplish or red hue, apparently rough. These patches were well-defined on the cheeks. In fact, in these cases, the eruption never had the appearance of being completely developed. The temperature of the

surface was, invariably, above the ordinary standard in fever. When the eruption commenced declining, the patients were annoyed by the most violent itching. In small children this symptom was tormenting, as they were kept continually scratching. A desquamation of the cuticle, on a decline of the eruption, was observed in a majority of cases. The disease, as it appeared among us, was decidedly of the inflammatory type. Even when the typhoid symptoms, as they are termed, came on early in the malignant form, still the preceding inflammatory action was proportionably high. Although the pulse may not be so resisting and firm as in the anginose form, yet it is evident that the circulatory apparatus is rather embarrassed in its operations, and not suffering from debility. A determination to the brain was frequent, and most of the fatal cases terminated in coma, with either a torpid state of the bowels or colliquative diarrhœa, and a copious eructation of gas from the stomach. In many cases of the simple and anginose form, costiveness was not an unfrequent symptom, and, in fact it was often remarkably obstinate throughout the whole course of the disease. Swelling and suppuration of the glands about the neck were frequent. Dropsical effusions also occurred in many cases; when this took place in the ventricles of the brain it was generally fatal. It is from this cause we may account for many of the sudden cases of death, where the patient presented every appearance of being in a fair way to recovery. These instances of a dropsical tendency were regulated, we think, very much by the course of treatment adopted; but more of this when we come to that part of our subject relating to blood-letting.

As to the cause of the disease, properly speaking, its contagious or non-contagious nature, we can add nothing from our own experience to what has been already said, that would be calculated to throw any additional light on the subject. The evidences on this point are conflicting, and after what has been written on the subjects of contagion and epidemics, it would be mere repetition to say any thing in this place. It is a point which will, perhaps, remain forever unsettled in the minds of some practitioners. It evidently prevailed in this city as an epidemic, although many facts could be brought forward that would go far to establish the doctrine of partial or contingent contagion. Some think it both epidemic and contagious, and others again regard it as infectious.

The disease, although most prevalent and fatal among children, was not confined exclusively to them; we observed several cases in persons from forty to fifty years of age, and one case in an old negro woman of sixty. It was also generally severe with persons

of this class, particularly among those whose viscera were disordered from the habitual use of ardent spirits. Persons of this character were almost invariably taken off by fatal congestions of the abdominal viscera or brain. Several cases also occurred in infants at the breast, but it was generally very mild, with scarcely any fever. That class among whom it was most fatal, were children from three to fifteen years of age. In many of these cases it appeared to be complicated with worms. We think it probable that this only occurred in cases where the irritation was extended to the mucous membrane of the alimentary canal; thus the worms acted as an additional irritant, and served to impress upon the disease a degree of complication and malignancy which would not otherwise have occurred.

We observed no cases of second attack in the same individual, although we heard of several. May not the sequelæ of the disease, which sometimes come on suddenly after the patient is to all appearances well, be mistaken for a second attack? There was one case that came under our notice, in which there was a second eruption after the first had desquamated, and the child to all appearances perfectly well; yet from its character we could not regard it as a second attack. It differed from the first in appearing to be seated entirely beneath the cuticle, without the slightest elevation of the papillæ or any portion of the skin. The entire body and extremities were covered with it. It remained out twenty-four hours, and then left the patient, having been accompanied with no further symptoms of disease.

Writers differ in opinion relative to the pathology of the disease under consideration. Some regard it as an essential fever, terminating by an eruption or angina; others as sympathetic of angina. There can be no doubt that the soreness of the throat and fever do take place in many cases without the eruption. We have never observed, on the contrary, that the eruption or fever appeared without the throat and tongue having previously exhibited some evidences of a derangement of its mucous membrane. This may not be observed in all cases, but it is merely because the patient is not always seen by the practitioner at the onset of the disease. There may not be the slightest febrile action, yet we can always detect, on examination of the tongue and fauces, the appearances peculiar to these parts in this disease, particularly the elevated papillæ of the tongue appearing above the white fur. Hence we think the definition of *scarlatina simplex* incorrect, when it is said to consist in "a simple constitutional disease, without any morbid affection of the throat." In one or two cases of children running about the house, where we had patients

labouring under scarlet fever, on examination of the tongue and fauces, we observed the peculiar appearances above-mentioned, two or three days before any febrile symptoms were manifested. These circumstances, taken in connexion with the ratio symptomatum of the disease, can leave no doubt as to the first link in the chain of morbid derangement. In almost every case, we shall find that in proportion to the degree of this primitive derangement, will be the violence of the general disorder of the system. We regard the progress of this disease as additional evidence of the correctness of the following pathological principles of Broussais.

"In every instance irritation is always identical in its nature. In whatever part of the organization it may be seated, whatever causes may have brought it into action, or the number of sympathies which it developes, it is always characterized by an afflux of fluids. It always commences in a single organic system, and is afterwards communicated to others. It is primitively local, and never changes its nature in migrating from one part to another, but can always be reduced to an augmentation of the phenomena which are the evidences of vitality."

In this manner we may account for the complications so frequently met with in this disease; for the propagation of the irritation from the throat to those viscera, the derangement of which always endanger life. Many object to the doctrine of irritation, as being too simple. On examination, however, we shall find that this is one of its most commendable features. Truth is simplicity itself—nature in her most lovely garb. Let us examine the works of creation, according to the fundamental laws of philosophy, and what is there more simple and easy of comprehension! Take away from us these fundamental principles, and what appears to us more vague, mysterious and complicated! Let us then examine the disorders of the human frame on philosophical principles, and the nearer we approach to truth, the more certain and simple will be our management of its diseases. While the various sciences are every day yielding their beautiful laws to the experiments of the philosopher, why should medicine slumber in uncertainty and quackery? But the foundation of a more correct system of observation has been laid.

"Already has the road been chalked out, which is to lead to this important consummation. Already has a light broken through the horizon, to light us on to victory and success; and the clouds of error are fast dispersing before the all-illuminating influence of truth, while the car of medicine enriched with the inestimable treasures of physiology and pathology rolls on, majestically making constant accessions to human happiness, and securing new triumphs over human misery."

Having taken a cursory view of the symptoms and pathology of the disease, we will now pass to the subject of its treatment.

In the mild form of the disease, little medical aid will be necessary. Rest, low diet, mucilaginous drinks, and keeping the bowels in a soluble state, will generally be sufficient. These cases seldom come under the immediate notice of the physician. But when the disease assumes the second or third form, no time should be lost, immediate recourse should be had to those remedies which experience has shown to be the most effectual in checking its progress.

In the anginose form, we have found an emetic to be the best mode of commencing the treatment. Many objections have been urged against this remedy, but the weight of authority, as well as experience, are in favour of the use of emetics in this disease. We generally prescribe ipecac. and tartar emetic in combination, and encourage the vomiting by means of copious draughts of tepid water. We have invariably found the vomiting to have a most decided effect in checking the inflammation of the fauces, and reducing the general febrile action, particularly the pungent heat of the surface. Some object to the emetic in consequence of its irritating effects on the stomach. We are as decided in our objections to emetics, in cases where the stomach is the point whence the irritation is radiated, as any one can be. In what is generally termed bilious fever, where the irritation is concentrated on the mucous membrane of the stomach and duodenum, they are evidently injurious, and should be proscribed. But experience is in favour of their use in scarlet fever, and it is not contrary to reason. Thus, we must remember that "experience is blind if unenlightened by reason, and reason too vague and uncertain unless it be based upon experience." Others again object to their use, in consequence of their tendency to produce prostration; and particularly those who consider this disease to be of a typhoid character. This objection we think unfounded. In croup, for instance, there is great apparent feebleness of the circulation, and evident prostration of the muscular energy, yet we find that nothing is so effectual in subduing the anginose symptoms, and restoring the centrifugal action of the circulation, as an emetic carried to copious vomiting. The typhoid symptoms are consecutive to the inflammation of the fauces, and in proportion to the severity of the local irritation; consequently, a remedy which will subdue or arrest the progress of the local affection, must be efficacious in preventing the typhoid stage. Experience has amply shown that emetics are among the best remedies we have against the anginose affections. In the

disease in question, they not only exercise an important influence over the general circulation, but also effectually cleanse from the throat that tenacious mucus which is peculiar to this affection, and which contributes in no small degree to aggravate the irritation of the fauces.

When we speak of the use of emetics in scarlatina, we allude to the onset of the disease—before the sympathies, which the local irritation will bring into action, have implicated other organs, in which case they might be injurious. They should be administered when the inflammation of the throat predominates, at which time there will be no danger from their action on other organs. In this case we stifle the irritation in the bud—meet it in its primitive position, and prevent or lessen the development of those sympathetic actions, through which alone the whole organization can be implicated, for observes Broussais, "irritation, acting on one point of the organization, is repeated afterwards in other points through the medium of the nerves, and this action is what is termed sympathy."

The great danger of this disease arises from the formation of visceral congestions. When proper depletion has been neglected in the first stage of the affection, a determination to the brain, or some of the abdominal viscera, will, most assuredly, take place. It is from these complications that the great fatality in this disease arises. Dr. Armstrong is of the opinion, that these consecutive lesions are, in a majority of cases, the immediate causes of death. Under these circumstances, we do not hesitate to pronounce blood-letting to be proper, and, in many cases, absolutely necessary at the onset of the attack. But here again we are met with the old objections of typhus and debility; they are held up to us in all their terrors by the opponents of blood-letting. Let us throw aside these names, or, merely regarding them as symptoms, endeavour to refer them to the structural derangements whence they arise; by this course of analysis, we shall regard the disease in its true light, and not suffer its nature to be represented by a single symptom, which will inevitably lead to a practical blunder. The disease consists, primitively, in an acute and rapid inflammation of the mucous membrane of the mouth and fauces. This inflammation is liable to be radiated, if I may use the expression, to other important organs, and in proportion to the severity of the primitive derangement, will be the danger to be apprehended from the consecutive lesions. How, then, are we to ward off this typhoid stage? shall we commence by anticipating the debility, and throw in stimulants to fortify the system? Nothing will

more certainly frustrate our design, and secure to our enemy a triumphant victory. This debility is merely apparent, and, for the support of the assertion, we refer you to the following well-established principles.

"Excitation," says Broussais, "is never uniform throughout the system; when it exists in a greater degree in one organ, it is in a less in another, and accumulates in one tissue by abandoning some other."

Again—

"The augmentation of the vitality of one or more organs, always leads to the debility of some others."

And again—

"Consecutive debility is not a disease, but is connected with irritation—being produced by it, and continuing or ceasing with it."

The apparent debility and typhoid appearances observed in the disease under consideration, arise in consequence of the irritation being radiated from the throat, and concentrated on some one of the vital organs. In this case, the excitability or vitality of the organs are elevated to such a degree, that a proportionable debility of others is the inevitable consequence. It is true, we should not bleed from the general circulation after congestions have actually taken place—where the deadly and fatal coma has but too surely revealed to us the true situation of our patient. The golden moment has been suffered to pass by unimproved, and we must now trust to revulsives and counter-irritants. In the treatment of this affection, the first twelve or twenty-four hours is every thing. We must lay the axe at the root of the evil. Our first blow must be a decided one. Of course, the constitution and temperament of our patient must have some influence over the application of this remedy. To say that blood-letting is proper or necessary in all cases, would be equally wrong and dangerous as to prescribe its use under any circumstances. But when we have come to the conclusion, from the nature of the existing symptoms, that it is necessary, we should bleed until a decided impression is produced upon the system, even if it should be necessary to carry it *ad deliquium animi*. We used the lancet freely in a majority of the cases that came under our care, and were never disappointed in our expectations. The delirium and determination to the head was relieved, the restlessness quieted, and visceral congestions prevented. We also found that the dropsical effusions and swelling of the glands of the neck, were less frequent in the cases treated by venesection than those in which it was not used. It is to be feared, that those who are so loud in their denunciations against blood-letting, have not employ-

ed it sufficiently early in the disease. This is a most important point. Prescribed too late, there can be no doubt of the injurious effects of blood-letting; but employed at the onset of the attack, its power in controlling the march of inflammation is almost omnipotent.

It will generally be found requisite to administer a cathartic after blood-letting has been employed, or where the treatment has been commenced without it. We find costiveness, and sometimes obstinate constipation, to be a frequent occurrence; and when we reflect on the great degree of irritation and restlessness which are occasioned by the lower intestines being loaded with fæcal matter, we must be convinced of the necessity of cathartic medicines to remove the difficulty. But we must be careful that the remedies employed for this purpose be not too irritating, as they will leave the mucous membrane, which they have relieved of a load of irritation, in a worse condition than it was before. Enemata will not be sufficient alone to fulfil this indication; they may relieve the rectum of the fæces, but there is a certain condition of the mucous membrane caused by the irritation which requires something more active. We generally administer from five to ten grains of calomel, to be followed in a few hours by a full dose of castor oil. After the bowels have been relieved by this medicine, we maintain them in a soluble state by the daily administration of enemata; and unless the costiveness should become obstinate again, we never resort to any thing more than simple castor oil. We are aware that the advocates of what has been termed "physiological medicine." have been accused of giving currency to a system calculated to render our practice inert and inefficient, by banishing from the list of our remedies all the most potent medicines. This, we are satisfied, has arisen from misrepresentation. Because we deprecate the *abuse* of emetics and cathartics, we are accused of wishing to blot these remedies from the materia medica. Because we have cried out against the horrid effects of an indiscriminate use of calomel, and those who prescribe it in an empirical manner, our opponents say, that we wish to proscribe the use of the very Samson of the materia medica. These misconstructions and misrepresentations are but the fruits of ignorance and prejudice. We are not opposed to the use of calomel when prescribed in a judicious manner. Our objections are only against the abuse of this important article. We would but rescue it from the oblivion into which its professed friends are fast hastening it. In every case of irritation of the mucous membrane there is more or less congestion of the capillary vessels; and we must readily see how cathartics may act beneficially under such circumstances. This is the very

condition of the mucous membrane of the alimentary canal, in which we have recommended the use of calomel and oil. The accumulated fæces here act as an additional source of irritation; the irritation of the disease is extended to the rectal as well as genital mucous membrane, and a cathartic administered as directed above will never fail to procure manifest relief. The first evacuations after the medicine has been administered will be found to exhale a most intolerable fœtor, and not unfrequently it will be necessary to burn sugar or vinegar to remove the offensive odour from the apartment of the patient. Thus we administer calomel to procure a definite result, and not to cruise through the liver and portal circulation after *black bile*, or imaginary demons, whose peculiar residence and hiding place is supposed to be in this innocent organ.

It is necessary in this disease, as it is in all others arising from irritation, to pay strict attention to the diet of the patient. During the period of excitement all articles of a stimulating nature should be proscribed. Officiousness on the part of nurses, and those who are fond of giving advice in such cases, has been the occasion of the fatal termination of many cases. It is of as much importance, if not more, that the physician should be obeyed with regard to the diet of the patient, as it is that his prescriptions should be faithfully complied with. The propriety of such a course must be so obvious to every reflecting individual, that we will say no more. Flaxseed tea acidulated with lemon-juice will form an excellent drink. In fact, any mild mucilaginous fluid will answer every purpose, provided it be not offensive to the stomach of the patient. We have no objections to the use of sago or baum tea. We have been in the habit of allowing cold lemonade in all cases, without the slightest injury to our patients. When the force of the disease is subdued, and the patient begins to mend, we must gradually increase the diet in proportion to the restoration of the digestive powers. After having confined the patient to an absolute diet during the period of high excitement, we may then commence with arrow-root and the different articles of the same nature.

We have never resorted to sponging with cold water, or cold affusions, for the purpose of relieving the intense heat of the surface, and therefore can say nothing as to their efficacy. We have found the warm bath useful in many cases in which the eruption had suddenly seceded; also in cases complicated with convulsions. We think it not only unnecessary, but highly injurious, to confine the patient to a feather bed, and load him with covering, for the purpose of warding off the effects of cold. He should not be exposed to a current of

air; but he must be lightly covered, and confined to a mattrass instead of a feather bed. This we think of much importance.

For the swelling of the glands about the neck we use the common poultice of baker's bread and milk. Under this treatment we have not had a single case in which the glands suppurated. We are also in the habit of applying this poultice to the throat when the fauces are much swollen and painful; it should be renewed as soon as it becomes cold. We think these external applications to the throat have had a better effect than all the gargles that have been prescribed. Many persons will not be satisfied, unless they are permitted to use a gargle of some sort, and therefore to prevent them from doing something that would aggravate the disease, we generally permit the use of such as are not likely to be injurious.

When the disease assumes what is termed the typhoid type, the treatment must be directed against the local congestions and determinations. The principles which should guide us here, do not differ from those in similar cases. The only sure security against this fatal termination, is the judicious and prompt treatment of the disease at the onset. As we observed above, the first twelve or twenty-four hours is every thing. Arrest the disease at the onset, and it will be easily managed afterwards. There is no question, that the dropsical effusions may be prevented, in a great measure, by timely and effectual sanguinary depletion. Dr. Dewees observes, "we are inclined to believe, that this affection arises from the accompanying inflammation not having been properly subdued by early depleting remedies," consequently the dropsical effusions, arising from chronic irritation or inflammation, must be treated accordingly.

Augusta, Georgia, May, 1833.

Art. IX. *A Case of Ossification of the Muscular Tissue.* By David L. Rogers, M. D., Lecturer on Surgery in New York. [Communicated by S. R. Kirby, M. D.]

In June, 1832, Dr. R. was first consulted in the case of James Mulwill, aged thirteen years. His father stated that his son, from his infancy, had been in good health, and was remarkable for animation and a high flow of spirits. About six months ago, it was perceived that his health began gradually to fail, and without any perceptible cause. At first, a loss of motion in the arms was noticed;

he was unable to raise them to his head or carry the elbows to any great distance from the body. The motion of the right arm lessened every day, until it was permanently fixed to the side of the body. Shortly after his head inclined forwards and downwards on the sternum. At the time Dr. R. first saw him, his appetite and digestion did not seem to be impaired; slept well at night, and the bowels were regular. On examination, it was found that the pectoralis major muscle was ossified at its superior part and extended in the direction of the clavicle to the arm; the bony deposites forming high and irregular elevations. The sterno-cleido mastoideus was ossified from the sternum to its middle portion, with several elevations. The back exhibited the greatest quantity of ossific matter, having a tubercular appearance. The scapula was fixed to the ribs and studded with bony excrescences. All the muscles going to the scapula appeared more or less affected, viz.—the trapezius, rhomboideus, subscapularis, &c. The latissimus dorsi formed a large bony plate, from its origin to the angle of the scapula; at this part it had united to the ribs forming a large tubercle. The longissimus dorsi was in a similar condition, extending upwards along the spine, resembling a splint, and to this may be attributed the entire loss of motion in the lumbar vertebra.

The treatment was various, and may be considered a series of experiments, to check the predisposition to the formation of bone.

His general health at this time not being materially affected, recourse was had to alteratives, consisting of the different preparations of mercury with sarsaparilla. Having used these for a length of time without benefit, the acids were employed without effect, viz.—the nitric, muriatic, and sulphuric; the carbonate and phosphate of iron were administered with the same result; the iodine was also given, but without advantage.

Finding at the expiration of three months, that no change for the better had taken place, and that the bony depositions had increased, all active treatment was now abandoned, and he was directed to live principally on salted provisions; the object was to produce a state of his system resembling that in scurvy, as it is known that bony depositions do not take place in this disease, and that fractures, which have been united for several years, are sometimes separated in the scorbutic diathesis.* Until this time he had been an office patient, but from some cause unknown he omitted to call for several months. In March, 1833, he was visited at his residence; he was much

* Lord Anson's Voyage around the World.

changed; his general health had suffered; had lost his high spirits and was very irritable; had a diarrhœa; was greatly emaciated; the ossific depositions had, in some respects, changed their situations; the sterno-cleido mastoideus muscle had become free, and the head returned to its erect position; many of the tubercles of the back had been absorbed, and others formed in different places. Bony depositions had taken place also in the muscles about the trochanter major, particularly on the right side. He was compelled to lie in bed, for the least movement produced excruciating pain. A large collection of matter formed in the thigh near the joint, which when discharged afforded some relief; but the constant pressure on the bony tubercles on the back, caused extensive sloughing, and after three weeks of great agony he expired. The body was partially examined twelve hours after death. The glands of the mesentery were enlarged; no ossific matter in the vascular system, but it seemed to be confined entirely to the muscular tissue. The parts within the abdomen and thorax appeared to be healthy. The pectoralis major and minor muscles were united into one, and attached to the ribs by solid bone. During this part of the dissection a large abscess was opened in each side, containing about six ounces of pus; the tendinous parts of the muscles were not affected. The muscles of the back were all more or less in the same condition. Specimens of the latissimus dorsi, longissimus dorsi, subscapularis and pectoralis muscles, are preserved in the museum of Dr. Rogers. In several instances, spicula of bone projected from the muscles one or two inches; and no doubt from the irritation they occasioned, abscesses were formed.

New York, November 9th, 1833.

Art. X. *On the Iodo-Hydrargyrate of Potassium; its Chemical History and Therapeutical Uses.* By William Channing, M. D. of New York.

That the universe is under the government of laws always harmonious, is a truth maintained by the pagan as well as the christian philosopher. All admit that the phenomena of nature can never be incongruous; but, that every new *truth*, however anomalous at first it may appear in view of those already acknowledged, has its proper place in a grand classification, yet but imperfectly understood. This classification, so far as ascertained, constitutes all that is known of

nature's laws; presenting as it does, in a comprehensive form, the various series of phenomena as yet subjected to the scrutiny of philosophical observation. Hence, in examining the validity of a plausible discovery, it is a primary requisite to its admission, indeed indispensable to its claim upon our least consideration, that it offer no *contradiction* to *facts* which the experience of ages has concurred to establish. But the human mind is prone to substitute hypotheses for facts, and to rest upon the deductions of ingenious speculation as upon indisputable truths. Thus, though the genius of a Bacon has broken "the spell of the mighty Enchanter of Stagira," the reasonings of the theorist, which to be legitimate must be strictly inductive, are still too often perverted by the visions of scholastic philosophy; and the verity of new positions is tested by criteria false as the dreams which gave them birth.

It is but to repeat a truism, to say that every genuine discovery is a certain advance beyond all past observations; and yet, forsooth, because its admission may perchance demand simply *a new classification of ascertained phenomena*, how often do we hear from the speculative dreamer whose cherished hypotheses are in danger, reiterated allegations that the discoverer aims at nothing less than *the subversion of established truths.* The traveller who asserted to an eastern potentate that he had seen water so hard that men walked upon it, roused in the bosom of the Asiatic, (whose conceptions could embrace nothing beyond the narrow limits of his own experience,) a fanatical spirit not to be appeased but with the blood of the *daring innovator.* An equally striking illustration of the power with which early imbibed opinions, however untenable, cling to the mind, and effectually preclude the most palpable evidence, is thus noticed by the discriminating author of "*Essays on the Pursuit of Truth.*"

"A modern writer in his travels through Mesopotamia, relates that at Orfah, (the ancient Ur of the Chaldees,) the river and the fish in it are regarded as sacred to Abraham; and the inhabitants firmly believe, that if any of the fish were caught, no process of cooking could make any impression on their bodies. Here is a notion which any one might at once put to the test by direct trial; a fact, which they have only to stretch out their hands to verify or disprove; yet so thoroughly preöccupied are the minds of the people by the prejudice instilled in early infancy; such awe do they feel in relation to it, that they have not the slightest suspicion of its absurdity; and would think it profane to attempt to submit it to the ordeal of actual experiment."

These general remarks premised, the following facts and reasonings are submitted to the consideration of an enlightened and liberal profession, with the hope that their legitimacy will be tried before no other than the tribunal of impartial experience.

A case of severe affection of the lungs, of several months standing, which came under my care in February, 1832, assumed a few weeks afterwards, a character so serious as to destroy all hopes of recovery, unless by some new expedient the progress of disease should be speedily arrested.

Having already put into requisition unavailingly, the various resources of art sanctioned by respectable authorities, in the desperate circumstances to which my patient seemed reduced, I resolved to make trial of one of the iodides of mercury; medicines which, combining in a remarkable manner the active properties of their energetic elements, had frequently been a favourite subject of reflection, and (for reasons unnecessary here to particularize,) had to my mind promised much for cases of chronic pulmonary disease.

"Both these compounds," says professor Turner, "are insoluble in pure water, but are dissolved by a solution of the hydriodate of potassa." They are both, and especially the deutiodide, soluble also in alcohol. But, as I had repeatedly experienced since the suggestions of Lugol, the decided advantages of the hydriodate of potassa over alcohol as a solvent for the exhibition of iodine, it was adopted, with similar views in this instance, for the deutiodide of mercury, the more soluble of these mercurial compounds.

In thus preparing this medicine for exhibition, the physical changes which occurred were too remarkable to escape observation. I could not but be struck at once with the rapid disappearance of the brilliant red of the iodide of mercury, and the conversion to a straw colour of the clear colourless solution of the hydriodate of potassa, as the former was gradually added to the latter. Subsequently the mild taste of this solution of the deutiodide of mercury compared with its solution in alcohol, was a circumstance scarcely less likely to attract attention. At length, when on trial of their respective effects on the human system, a correspondent difference in the mildness of their action was manifest, the inference was hardly to be resisted, that in this preparation the hydriodate of potassa acted a more important part than that of a mere solvent; or that in fulfilling this office, new affinities were developed, and new combinations formed worthy of investigation.

To determine this point more satisfactorily, a solution of the two iodides of mercury and potassium, at my request, was slowly evaporated by Mr. G. Chilton, operative chemist of this city, when beautiful prismatic needle-form crystals appeared of a bright straw colour, so deliquescent as to be maintained only in a very dry atmosphere, and perfectly soluble in water and alcohol in less than one-

third their weight; thus demonstrating the validity of the inference above stated, and establishing the existence in this combination of a definite compound, a new salt, not yet adverted to by any chemical work published in this country.

On referring to foreign publications, it appeared from the "*Annales de Chimie,*" that this with other new salts had been discovered by Mr. P. A. de Boxsdorf of the University of Finland, in 1826, and subsequently noticed in an interesting essay of his, originally published in the "*Annalen der Physick;*" maintaining the position that chlorine, iodine, &c. like oxygen, enter into combinations, forming both acids and bases; that thus, the chloride of mercury unites with the chloride of sodium in definite proportions, the former as an acid, and the latter as an alkaline base; constituting, (according to the nomenclature harmonizing with this theory,) chloro-hydrargyrate of sodium.

In conformity with these views, (now adopted by some of the most eminent chemists of Europe,) the salt under consideration is noticed by its discoverer under the appellation of "iodo-hydrargyrate of potassium," and without touching upon its analysis, his remarks are limited to a simple statement of the mode of its preparation, and its appearance when prepared, as one of the many illustrations furnished by his experiments in support of the chemical doctrine he would uphold. But as this preparation soon after my acquaintance with it developed medicinal powers of no ordinary importance, a more particular examination of its constitution became a matter of interest. The following is the result of such an examination, sufficiently accurate for practical purposes.

By experiment I first ascertained that a solution of eight grains of the *pure* iodide of potassium in a small portion of water, (10 or 15 minims,) would combine with a fraction less than eleven grains of the deutiodide of mercury, maintaining the combination in solution, diluted with water or alcohol to any extent. If more than eleven grains of the deutiodide were added, although a small excess was dissolved in the concentrated solution, on diluting with water, it was promptly precipitated.

Now as 10.9 : 8 : : 450 : 330, or			
1 atom deutiodide of mercury	450	are as	10.9 to
2 atoms iodide of potassium	330		8.
Add to these per estimate—			
4 atoms combining water	36		0.9
	816		grs. 19.8

Giving as the constitution of the iodo-hydrargyrate of potassium,	4 atoms iodine	500
	1 atom mercury	200
	2 atoms potassium	80
	4 atoms water	36
	Atomic weight	816

From this statement it is evident, that in preparing this salt for exhibition, the labour of crystallizing it in order to obtain a solution of a definite strength is wholly unnecessary; inasmuch as a solution, combining a fraction more than eight grains of the iodide of potassium with eleven grains of the iodide of mercury, may be used as containing twenty grains of the iodo-hydrargyrate of potassium, the difference, if any, being too small to merit consideration.

But if it be desirable to obtain the preparation in a crystallized form, it is important that the definite proportions of the two iodides be observed, particularly that there be no excess of the iodide of mercury. For the *saturated solution of eight grains* of the iodide of potassium will dissolve and enter into combination with more than *thirteen grains* of the iodide of mercury, forming similar crystals soluble in alcohol, but in water precipitating more than two grains of the iodide of mercury. Hence, by dissolving a suspected preparation in twenty or thirty times its weight of pure water, any excess of the iodide of mercury is immediately detected.

The *substances incompatible* with this compound, are the mineral acids, the fixed and volatile alkalies, with their carbonates, acetate of lead, nitrate of silver, sulphuret of potassa, and all preparations containing free chlorine. There appears to be no reäction exerted upon it by the tincture of galls. Its administration in metallic vessels should be avoided.

In reference to the case adverted to, as affording the first illustration of the medicinal powers of this preparation, it occurred in the person of S. L. aged thirty-three, a blacksmith, of a sanguine temperament and an athletic frame, to whom I was called the last week of February, 1832.

He stated that in July, seven months preceding, he was attacked with a severe cold and cough, which had been uninterrupted to that time. He complained of acute pain in the right side, about the middle of the sixth and seventh ribs, much aggravated by full inspiration, and of cough harassing him night and day; expectoration was mucous and inconsiderable; pulse tense and frequent; flesh and strength much reduced; he was feverish in the afternoon, in free perspiration at night, and in the morning chilly and enfeebled.

By means of local bleeding, revulsives, mild expectorants, and demulcents, his symptoms put on so favourable an aspect as to promise a speedy recovery. The pulse was reduced and softened; the cough greatly mitigated; expectoration loosened; pain removed, and strength daily increasing. Improvement thus continued until March 20th, when I found that in consequence of imprudent exposure two days before, he had relapsed. His cough had become urgent; pulse accelerated; skin heated and respiration oppressed. The usual remedies were resorted to with beneficial effects, but in a few days purulent expectoration, hectic exacerbations, profuse night-sweats, &c. ensued. From this period his disease advanced with but temporary meliorations, in defiance of the various remedial measures approved in such cases, presenting the following symptoms on

Saturday, noon, April 21st.—The cough is frequent and expectoration difficult; the sputa muco-purulent, about half a pint daily; the pulse which has been gradually rising, now beats 105 to the minute, quick and feeble; the surface of the tongue resembles raw meat, and the appetite is insatiable; colliquative sweats and diarrhœa; the latter having commenced two weeks since, is now urgent. His nights are almost sleepless, and his strength and flesh so rapidly wasting, that the powers of life must soon fail, unless some means be promptly discovered to overcome these threatening symptoms; especially as his friends state that his father, brother, and other members of the family "have died in the same way," to use their own language, "of hasty consumption;" and that he has been several years addicted to the excessive use of ardent spirits, by which his constitution appears seriously impaired.

Sunday, noon, April 22d.—℞. Deutiod. hydrarg. gr. iv.; Hydriod. potass. ℈i.; Aq. distil. ℥i. M. ft. sol.—Take five drops in water three times a day.

Tuesday, 12 *M. third day under this treatment.*—Pulse 102; expectoration more free, and otherwise there is apparent improvement.

Thursday, fifth day, M.—Pulse 100; diarrhœa checked; tongue looks better, and other symptoms meliorated. Increase the dose to six drops.

Saturday, M. seventh day.—Pulse 96; sputa lessened and less viscid; night sweats and diarrhœa have ceased; tongue appears nearly natural. Increase the dose one drop daily.

Wednesday, eleventh day.—Pulse 90; continues to improve; doses of ten drops three times a day are now taken without morbid effects.

Thursday, twelfth day.—Pulse 96; patient has just taken a hearty dinner of *fried fish,* impelled by his still uncontrollable appetite.

Friday, thirteenth day.—Pulse 87.

Saturday, fourteenth day.—Pulse 85.

Sunday, fifteenth day.—Pulse 82.

Monday, sixteenth day.—Pulse 96, and irregular; patient is in bed, complaining of nausea, and has been vomiting; sputa mucous.

Tuesday, seventeenth day.—Pulse 102, quick, and with a double beat at irregular intervals; cough is worse; sputa mucous, and *very frothy;* skin hot; patient is complaining of thirst and head-ache. Suspend the medicine.

Wednesday, eighteenth day.—Pulse 72, soft and full; sputa, (about one-eighth of a pint in last twenty-four hours,) no longer frothy, but sero-purulent. Patient has had a sweating sleepless night, but a refreshing sleep this morning, and says he now feels much better in all respects. Resume the solution five drops ter die.

Thursday, nineteenth day.—Pulse 90, quick and irregular; has slept well, though the cough this morning is troublesome, and the sputa are *mucous and frothy.* Suspend the medicine.

Friday, twentieth day.—Pulse 78, soft and full; sputa, (but about ℥i. since last evening,) muco-purulent and *not frothy;* cough is evidently subsiding; a small ulcer has appeared on the tip of the tongue, and an eruption about the lips; appetite being no longer preternatural, the simple diet prescribed is cheerfully observed. Strength is much increased, and general appearance improved. No medicine, unless the cough at night requires a small opiate, as at times.

Saturday, twenty-first day, 9 *A. M.*—Pulse 72.—12 o'clock, (with Professor Macneven.) Pulse 77, after a walk of a mile, which is borne with little fatigue; cough and expectoration slight. (Dr. M. thinks he will recover.)

Sunday, twenty-second day, 3 *P. M.*—Pulse 84; other symptoms as yesterday.

May 14*th. Monday, twenty-third day.*—Pulse 85; cough and expectoration during the night and morning somewhat increased; strength not improved the last two days. No medicine has been taken the four days past, excepting an occasional opiate at night. R. Iod. hydrarg. potass. gr. j.; S. V. T. ℥j. M. ft. sol. Take ten drops three times a day.

Tuesday, twenty-fourth day, 4 *P. M.*—Pulse 85; sputa but a small quantity; last night slept well with no cough. Continue medicine.

Wednesday, twenty-fifth day, 2 *P. M.*—Pulse 85; during the night and morning, has had five copious, acrid, bilious evacuations, attended by sharp cutting pains through the bowels, with perspiration. Early this morning vomited a yellow bitter fluid, but now feels very

well, having coughed but little and that without expectoration. Continued medicine.

Thursday, twenty-sixth day, M.—Pulse 87; has slept well; expectoration (purulent) recurred this morning, in small quantity; other symptoms same.

Friday, twenty-seventh day, M.—Pulse 95; expectoration in greater quantity; patient has slept well. Increase the medicine to gut. xx. twice a day.

Saturday, twenty-eighth day, 10 *A. M.*—Pulse 80.—5 *P. M.* 76.

Sunday, twenty-ninth day, 10 *A. M.*—Pulse 84.—5 *P. M.* 82—showing the continued cessation of the evening exacerbations.

Monday, thirtieth day, 1 *P. M.*—Pulse 96; expectoration lessened. During the night and this morning, has had ten or twelve alvine evacuations similar to those five days since, and with similar pains in the bowels. Increase the doses gradually.

Tuesday, thirty-first day, 1 *P. M.*—Pulse 93; yesterday afternoon a slight evacuation, since which bowels have been easy, and are to-day regular. Patient says he feels well, and almost strong enough to work.

Wednesday, thirty-second day, 2 *P. M.*—Pulse 89, regular and soft; sputa in very small quantity, and gradually losing their purulent appearance. Patient has slept the whole night without cough.

May 24th. Thursday, thirty-third day.—Pulse 76, soft, full, and of nearly natural strength; cough very rare, and expectoration easy; sputa still purulent, but occurring only on rising in the morning, to the amount of a tea-spoonful; bowels are regularly moved with healthy evacuations. Patient eats and sleeps much as when in his best health, and walks two or three miles a day with no more than ordinary fatigue.

At this time, as he was about to leave town, I parted with him, directing the continuance of the solution, (of which he is taking twenty-five drops twice a day,) until the cough and expectoration should entirely cease. His family soon afterwards informed me that these symptoms had totally disappeared; since which, though my professional relation had terminated, I have from time to time, up to September last, a period of fifteen months, been gratified with the intelligence of his continued freedom from pulmonary complaint, with the exception of considerable dyspnœa, or shortness of breath, produced whenever more than moderate exercise has been attempted.

Anxious to test still further the therapeutical properties of the medicine which had effected so much for the case described, on the 16th of May, I assumed the treatment of a young female, (S. B. aged

twenty,) of a delicate constitution, in the last stage of tubercular phthisis, successively abandoned by several respectable practitioners as past all relief. The limits of this memoir preclude all but a brief abstract of the case, from notes at the bed-side.

At 10 A. M. when the remedy was with difficulty first administered, the friends of the patient had for five hours preceding expected each to be her last. Indeed, with a countenance hippocratic, respiration oppressed to the extreme, and a feeble, fluttering, countless pulse, to all she appeared moribund. Under the operation of this agent, repeated from time to time, the lungs were gradually unloaded of their accumulated secretions, expectoration became free and less morbid, and the pulse acquired steadiness and strength until the fourth day, when reäction was completely established. In the course of the treatment, appetite long lost was restored, constipation of the bowels obviated, torpor of the urinary organs and their morbid secretions corrected, troublesome ulceration of the hips healed, and, though the preternatural excitement of the pulse was but little reduced, periodical exacerbations were no longer apparent.

On the 12th, the 14th, and the 17th days respectively of the treatment, collapse recurred after temporary suspension of the medicine, and by its instrumentality alone exhibited *pro re nata*, on each of these occasions reäction was complete.* Life was thus prolonged to the evening of June 2d, the 18th day, the last five of which were passed without even the aid of an opiate, the only accessory before resorted to.

Autopsical examination corroborated the deductions from the vital changes under the treatment, and afforded in the devastation of disease pervading the lungs, incontestible evidence of the utter hopelessness of the case.

A third case, in the last stage of phthisis, (Mrs. S. aged twenty-three,) was placed under my charge by a professional friend, who though firmly convinced that medicine could scarcely retard its rapid progress to a fatal termination, continued his attendance noting the extraordinary alterations following the exhibition of this new agent—commencing May 29th. As in the preceding instances, its effects were here unequivocally displayed upon the urgent cough, the viscid expectoration, the periodical excitement, the preternatural condition of the skin, and the abrasion of the hip—upon the florid tongue, the sore throat, the voracious appetite, the exhausting diarrhœa, and the

* The collapse of the 17th day was so extreme that there was involuntary fæcal evacuation.

morbid urinary secretions—both alvine and urinary evacuations of the most healthy appearance being induced and maintained to the hour of death. Equally well-marked was its influence in the establishment of reaction, upon the supervention of extreme collapse on the fifteenth day of the treatment. Besides the reiteration of these attestations to the valuable properties before exhibited, in this case first clearly appeared the evidence of still more comprehensive powers, in the entire removal, through urinary and cutaneous evacuations, of extensive œdema of one of the lower extremities in the first forty-eight hours of its administration.

The case terminated on the nineteenth day. Autopsy not permitted.

Respecting the doses of this preparation employed in the cases we have presented, it is important here to state some particulars.

In the case of Mr. L. if the solution with which the treatment was commenced, be estimated as equivalent to an aqueous solution of eight grains of the proper compound to the ounce, then fifteen drops, the quantity daily used, were equal to a quarter grain of the salt. This was gradually increased to a half grain per diem, when, on the seventeenth day, excessive action called for its suspension. Resumed the day following in half the doses; twenty-four hours use again required its suspension. After four days without medicine, a solution was substituted, of the recently-discovered definite compound iodohydrarg. potas. gr. j. in dilute alcohol, ℥j. of which the drops are but half minims. Hence the three doses of the twenty-third day, (gut. xxx.) amount to $\frac{1}{32}$d of a grain, and these were increased to $\frac{1}{20}$th of a grain per diem, with which the recovery was completed.

In the treatment of Miss B. (so delicately organized, and peculiarly sensitive in her reduced state,) the morbid phenomena from an excess of the remedy, were to be anticipated in doses much less than in the case first stated. Accordingly, commencing the treatment with $\frac{1}{48}$th of a grain, and slowly augmenting to $\frac{1}{12}$th of a grain per diem in two doses: on the eleventh day decisive evidence of excessive action induced its suspension for thirty-six hours. On resuming it in the original quantity of $\frac{1}{40}$th of a grain daily, renewed excitement the following morning again demanded a suspension; after which, as if susceptibility to its influence were constantly enhanced, reduction after reduction was called for, from $\frac{1}{90}$th to $\frac{1}{200}$th, and even $\frac{1}{400}$th of a grain per diem; and before the case terminated, much less than this last quantity through the day evinced the most indubitable effects.

The experience of the third case not only confirmed that of the

former in respect to the efficiency of exceedingly diminished doses, but proved what was perhaps of no less importance, that very considerable ones might be taken, under some circumstances, without disagreeable consequences—more than three grains of the salt during protracted collapse having been administered in fifteen hours, in gradually increased doses, with no other than the intended effect apparent, excepting the production of three copious alvine discharges, closely resembling in all respects those of a healthy child. As corroborating this testimony to its mild action upon the human economy in any moderate quantity, an experiment of the writer upon himself may be here subjoined. In this, a grain of the salt in half a pint of water was taken at a single dose with the only effects perceptible of a strong metallic taste and considerable irritation of the stomach, neither continuing after five or six hours.

In reviewing the history of these cases, the prominent effects clearly traceable to the recuperative powers of the agent employed, may be summed up under the following heads, as they were manifested in the different functions of the system, viz. 1st. Upon *the organs of circulation*—by the subsidence of the pulse in the first case, as a natural concomitant of the subsidence of disease; and in the second and third cases, as a diffusible stimulant, establishing reäction even in circumstances of collapse apparently desperate.

2d. *Upon the lungs;* in each of the three cases, by the progressive improvement of their secretions, and of the cough and the expectoration.

3d. *Upon the alimentary canal* and its appending glandular apparatus—by subduing in every instance the morbid action, and restoring the healthy secretions of the whole surface concerned in the functions of digestion and defecation.

4th. *Upon the urinary organs;* in the last two cases, by the revival of their activity, and the renewal and continuance of their natural secretions to the last.

5th. *Upon the skin and cellular tissue;* by the sensible changes in the secretions, exhalations, temperature, &c. particularly indicated in the last two cases by the cicatrizing of superficial ulcerations.

6th. *Upon the absorbent and exhalent systems;* 1st, of the mucous surfaces, by the effects already noticed upon the functions of the lungs, of the alimentary canal, and of the urinary organs; and 2d, of the cutaneous surface and cellular tissue, by those adverted to under this head; and particularly upon the lymphatics of the latter, by the prompt disappearance of the fluid there effused.

Or, to express these effects still more comprehensively, *they were displayed in diffusing excitement and equalizing circulation even through the minutest vessels engaged in the functions appropriated to the absorbent and exhalent systems, to the cellular, the mucous, and the dermoid tissues.*

The impression produced by these cases, (the varying phenomena of which had, with the most intense interest, been vigilantly observed,) upon the mind of one whose pathological opinions were early imbued with the doctrines of the physiological school, can be properly estimated only by those familiar with these doctrines; for they alone can appreciate the important and multiplied bearings, thus opened to his view, of such results upon medical practice, if *experience* should ratify the conclusions to which they so emphatically pointed.

Confiding his deductions to a few professional friends, he lost no opportunity afforded in his or their practice to subject their validity to this only decisive test. Wherever disease presented itself, simple or complicated, involving any or all of the functions appertaining to the glandular apparatus, to the cellular texture, or to the mucous and cutaneous surfaces, there the article whose powers had been so signally exhibited, was believed to be indicated, and it was prescribed with effects, which, though anticipated by the argument adduced, could not but excite surprise from time to time, as the doses administered were more and more reduced.

A fourth case of pulmonary disease, a mulatto woman, suffering under a severe form of bronchial phthisis, came under my treatment in May, 1832; and in despite of intemperate habits, in the course of the summer terminated in recovery.

On the 31st of May, the *same remedy*, in my practice, was prescribed for a case of *purulent ophthalmia* of several months standing, in a child four or five years of age, just removed by her mother from the Alms-house, where the disease continued prevalent: on the 1st of June for two cases of *dyspepsia*, the one with habitual torpor of the liver and constipation, and the other with the symptoms of *spinal irritation;* on the 3d, for *dyspepsia* with *amenorrhœa*, *leucorrhœa*, and *œdema* of a lower extremity; and on the 11th of the same month for *hepatalgia*, which had more than two weeks withstood the treatment repeatedly successful in former attacks—attacks that with this patient were premonitory of acute hepatitis.

The cholera, soon afterwards absorbing every minor interest, and modifying every minor disease, the employment of this agent was in a great degree suspended. Notwithstanding its powers as developed

seemed almost specifically adapted to the prominent symptoms of this formidable epidemic, yet, early convinced of the efficacy of other means already extensively tested, the writer did not feel authorized, in a disease so rapidly fatal, to attempt an untried experiment, which might prove the destruction of a fellow being. Accordingly, its trial was restricted to a few cases in the earliest period of premonitory diarrhœa, equally manageable by many other means. Hence, whether it is destined to take high rank among the numerous remedies for cholera, is still a problem for some more adventurous experimentalist to solve.

In the following month of December its effects in a case of (pleuro) pneumonia, and at a later period as exhibited by a friend in ascites with anasarca, went far to prove that the functions of the serous tissues, (so closely allied to those of the cellular,) were not less subject to the controul of this all-pervading alterative.

The results of these several cases were so many additional arguments in support of the conclusions alluded to, and inspired a faith in the extensive application of the medicine, which though occasionally disappointed, has from month to month been steadily augmenting and gaining new proselytes, as experience by degrees unfolded the circumstances which should controul its administration.

Many of these controlling circumstances will be found in the following detail of symptoms induced by its excessive action, comprehending as it does, all the morbid effects in different combinations hitherto observed in a great variety of constitutions, temperaments, diseases and modes of administration.

1. A peculiar dull pain pervading the head in the region of the os frontis—this if considerable being often accompanied by—2. Vertigo; and 3. General languor and restlessness, little exertion fatiguing even to faintness, and sometimes attended by—4. A somewhat sharp pain in the eyeballs, with great heaviness of the lids. 5. Dryness and heat of the mouth and fauces, at times amounting to soreness, (especially of the tongue,) as if they have been scalded. 6. Tongue reddened at the tip and edges, and if the medicine be continued, over the whole surface. 7. The teeth at their roots, (when the jaws are pressed together,) and the gums are unusually tender, the latter being reddened, as in the incipient stage of ptyalism. 8. Herpetic eruption upon the face, the neck, the trunk or upper extremities. 9. Dyspnœa, with a feeling as if the expansion of the chest were restricted as in the early stage of cholera. 10. Uneasiness of the stomach sometimes amounting to nausea and even vomiting, occurring

at intervals. 11. Tormina, or in some instances paroxysms of lancinating pain in the bowels, these often attended by—12. Bilious diarrhœa, and if this be kept up, by—13. Muco-sanguineous discharges with tenesmus, and 14. Hæmorrhoidal tumours, or partial protrusion of the rectum. 15. Pulse reduced in frequency, but with an occasional intermission and double beat. 16. Pulse excited, resembling that of mercurial irritation, and in some cases having an occasional double beat; the skin under this excitement being dry and heated. This state, on suspending the medicine, is usually followed within twenty-four hours by proportional reduction and softness of the pulse, and a corresponding state of the skin.

Multiplied observations have concurred to show that these morbid effects have been less frequently encountered, and if produced have been less durable in proportion as the doses have been reduced; whilst the sanative influence of the remedy, so far from being diminished in the same ratio, in many instances has appeared to depend upon carefully avoiding its excessive activity. Furthermore, acute disease demanding from remedies an intensity of action not called for in chronic—as the cases have been more acute, the multiplication of small doses has much more efficiently answered this indication, than any single dose proportionately augmented.

Hitherto the experience with this preparation has in a great measure been confined to chronic disease—in many of its gravest and in some of its most invincible forms. Its effects however in several cases of acute inflammation, particularly of the throat and of the chest, hold out flattering promises of important aid from it in the management of a class of diseases which too often bid defiance to the lancet, sustained by every adjuvant of the existing materia medica.

Besides numerous forms of disease in which its ascertained powers seem palpably to indicate its use, but in which they are yet unproved, the annexed list exhibits those in which experience has verified its salutary influence. Those marked (A) are such affections as uniform observation has proved to have more readily yielded, or to have been more promptly benefited under its operation alone than under any other known treatment. Those marked (B) experience, (too limited to authorize assurance,) indicates as probably no less under its control than the preceding class. The two diseases marked (C) have both been successfully treated with this article in several instances. But from these few examples, it is believed that other means are to be preferred, excepting when these affections occur in scrofulous habits.

DISEASES.

Of the Chest.

Chronic bronchitis	A
Hooping-cough	A
Peripneumonia	B
Pleuritis	B
Phthisis	A
Hæmoptysis	B

Of the Digestive Organs.

Aphthæ	A
Tonsillitis	A
Pharyngitis	A
Chronic gastro-enteritis	A
Colitis	A
Constipation	A
Dyspepsia	A
Hæmorrhoids	B
Intestinal worms	B
Hepatitis	B
Peritonitis	B
Ascites	A

Of the Genito-urinary Organs.

Nephritis	B
Lithiasis	A
Diabetes	A
Menorrhagia	A
Amenorrhœa	A
Leucorrhœa	A
Gonorrhœa	C
Gleet	B

Of the Skin.

Chronic eczema	B
Herpes	A
Psora	A
Porrigo	B
Lepra	B
Psoriasis	A

Of the Cellular Tissue.

Anasarca	A
Ulceration	A

Other Diseases.

Purulent ophthalmia	A
Carcinoma	B
Syphilis	C
Scrofula	A

The treatment of the affections designated in italics has been marked with a success as unexpected to the patient, as gratifying to the physician. Several cases of carcinoma are now under treatment. Of these all but one have recently commenced the use of the remedy, and that one, a case of scirrhus, evinces the most satisfactory improvement.

If this wide range of disease, alarm the incredulity of the cautious practitioner, perhaps his faith may be revived when he shall call to mind, not the fabled virtues of a panacea too often practically assigned to mercury, but the *well-authenticated facts*, showing the unrivalled efficacy in a long catalogue of diseases, of the several elements here associated in chemical combination. So far then from shaking his confidence, should not this consideration rather urge him to subject to the test of clinical experiment the remedial powers of the article, and determine for himself its real value as a therapeutical agent.

That an instrument of such potency will be exposed to the abuses incidental to ignorance and empiricism, is sufficiently indicated by the history of tartarized antimony, of quinine, and of every valuable accession to the materia medica. But the mischief wrought by such

weapons in the hands of the charlatan, will never deter the scientific physician, whose skill knows how to wield them efficiently in behalf of suffering humanity.

The writer cannot forego this opportunity to tender his acknowledgments to Drs. Macnevin, Mott, Vanderburgh, Wilson, Mason, Borrowe, and Wallace, of New York, and to Dr. Jackson of Philadelphia, for their aid in proving the powers of the article the subject of this paper. Some of these gentlemen, within the last few months, have used this medicine extensively in their practice, and fully concur in the writer's views respecting its wide application to disease, as well as its mode of administration.

New York, December 30th, 1833.

Art. XI. *Note of the Post Mortem Examination of a Female who committed Suicide almost immediately after Coitus.* By H. Bond, M. D. of Philadelphia.

In May, 1827, I was invited by Dr. Samuel Tucker to examine, *post mortem*, the body of a female who had destroyed herself with laudanum. She was apparently between eighteen and twenty years of age, well-formed, and in good health. She passed a night, or the most of it, *in coitu* with a young man, and before morning swallowed a large quantity of laudanum. Dr. Tucker was called to her in the course of the morning, but so late that all his efforts to restore her were ineffectual. The body was opened the next morning in the presence of Doctors Tucker and Meigs. Neither the head nor chest were opened. The viscera of the abdomen, as far as they were examined, exhibited no mark of disease, but the odour of laudanum was very strong in the stomach. I removed the internal organs of generation, and took them home for examination.

The uterus was larger than I had ever before seen it when healthy and unimpregnated, and its colour indicated more vascularity. The ovaries were large, extremely vascular, and situated nearer the uterus than usual. Instead of hanging loose at the distance of an inch or more, they appeared to be drawn so close to the sides of the uterus, that there was scarcely the space of a quarter of an inch between them. The Fallopian tubes were very vascular, so much so as to give them a firmer and more fleshy appearance than usual, and instead of ending in loose, floating fimbriæ, appeared to terminate by an

union with the ovaries, and to be very tortuous on account of the short distance between the ovaries and the origin of the tubes. On the surface of the ovaries were seen a few small vesicles of the size of shot, projecting little or none beyond the surface of the gland, and containing a slightly turbid fluid. From the ovaries and the fimbriæ several small vesicles were seen hanging by extremely delicate pedicles, from one-fourth to seven-eighths of an inch in length. They looked like pyriform drops of mucus, a little larger than the seeds of grapes, covered with an extremely delicate pellicle, which appeared to constitute the fibrils by which they were suspended. Upon cutting open the uterus, it was found to be thickly coated with a substance having the appearance and the strong peculiar odour of semen. Some of this substance was in the neck of the uterus. The Fallopian tubes, (at least the one which was laid open,) contained apparently the same matter, but whether it possessed the seminal odour was not ascertained. Upon wiping this matter from the lining membrane of the uterus, it was found to be of a vivid red, as red as the conjunctiva in acute ophthalmia, or as if it had been injected with vermilion.

Philadelphia, December 16th, 1833.

Art. XII. *On the Anterior Membrane of the Eyeball.* By W. C. Wallace, M. D. one of the Physicians to the New York Northern Dispensary.

When the eye of an ox or a sheep is immersed in boiling water, the anterior membrane coagulates, and it may be separated from the cornea and that portion of the conjunctiva which it covers. The conjunctiva does not coagulate; it cannot be traced to the cornea, but seems inserted into the sclerotica. When the eye is macerated, and the conjunctiva dissected from the eyeball, the conjunctiva may be cut through at its attachment, and as the anterior membrane overlaps it, there may be the appearance of continuity of structure; but if the separation be commenced on the cornea, and be carried to the conjunctiva, the corneal covering will be found to overlap it for a short space, and to be a distinct membrane, as it can be completely separated from it. It may be compared to a small watch-glass, a little larger than the cornea, and placed over it and the contiguous conjunctiva. In the ox, the sheep, and apparently the negro, its surrounding border is a dark-brown muco-albuminous ring, and a mucous continuation of it extends to the edges of the eyelids. I am not

sure if this continuation be different from the mucus of the conjunctiva, yet it sometimes seems to contain membranous fibres which are more evident towards the internal angle. The most distinct way of showing the anterior membrane of the eyeball, is to macerate an eye for some weeks in vinegar, and then cautiously to immerse it in boiling water, to harden what is albuminous, without corrugating the other coats.

The description of the conjunctiva, by writers on ophthalmology, is, that it is a membrane *sui generis*, partaking of the diseases of mucous membranes and of those of the skin. By almost every writer on anatomy, even the most modern, it is described as lining the eyelids and being reflected over the eyeball. Some say that there can be no doubt of its covering the cornea, for that serpents and other animals that shed their skins, shed the conjunctiva, and that it passes over the cornea. This I consider no proof that they are continuous.

Bayle states that the conjunctiva covers the anterior part of the globe of the eye as far as the circumference of the cornea, and that the cornea is covered by a peculiar species of epidermis distinct from the conjunctiva. Meckle, Cloquet, and Charles Bell, in some places, seem of the same opinion, but none of them proves the last circumstance. Cloquet refers to a memoir of Dr. Ribes, in the *Bulletin de la Faculté de Medecine*, 1814, *No.* 4. This memoir I have not been able to find.

If the cornea were covered with the conjunctiva, it is likely that vision would be impeded by mucus, and that the chemosis, in severe catarrhal or gonorrhœal ophthalmia, would pass over its surface. The existence of membranous fibres in the mucous layer covering the conjunctiva, and which seems continuous with the albuminous layer covering the cornea, has altered my views of the pathology of pterygium, a disease which does not appear to be seated in the conjunctiva. In strumous ophthalmia, pustules more frequently occur on the verge of the cornea than on any other part of the eye, and the loss of substance of the anterior membrane is as easily regenerated as that of the cuticle.

I may here relate another circumstance. When an eye is immersed in dilute nitric acid, the cornea is corroded; but no effect is produced upon the lining membrane, or that between the cornea and the aqueous humour. This is a very important fact in the economy of nature. When the cornea is ulcerated, the lining membrane resists as long as possible the destruction of the organ, and I am sure often preserves it by delaying the ulceration till the sore is disposed to heal either of its own accord, or by the application of remedies. I

have seen different oculists of eminence evacuate the aqueous humour by opening an unaffected part of the cornea, to lessen the pressure of the humours, and so retain the iris and other parts of the organ *in situ*, by preventing their protrusion through or adhesion to the ulcerated opening.

New York, December 27th, 1833.

ART. XIII. *Sequel of the Case of Axillary Aneurism and Ligature of the Subclavian Artery, inserted in Vol. III. p. 28, of this Journal.* By EDWARD W. WELLS, M. D. of Maracaybo.

IN the month of December, 1828, eight months after the operation, the patient paid me a visit. He said that his arm felt rather weak, and that when he used it freely, as he sometimes did for the purpose of chopping with a *machete*, or sugar-knife, it was slightly painful. The varicose appearance of the integuments in the vicinity of the shoulder no longer existed. The pulse was very perceptible, both in the radial and ulnar arteries of the affected side, but much weaker than in the opposite limb. The tumour under the clavicle and in the axilla remained about the same as when I last saw him, with the exception of a slight thrilling kind of pulsation, which was perceptible in it, and which was considerably diminished, but not entirely suppressed by compressing the brachial artery on the distal side of the aneurismal enlargement. I recommended him to reäpply pressure as he had done previously to the operation, and to continue it as long as he should perceive any pulsation in the tumour, restricting himself at the same time to a low diet, and avoiding exercise with the affected arm.

I did not see him again till August, 1830, when I met him by accident some miles from the city. The axillary portion of the tumour had entirely disappeared; and under the clavicle there was merely a slight protuberance, in which no pulsation was perceptible. The pulse at the wrist was stronger than when I last felt it, but still much weaker than that of the left arm. He told me that he felt no inconvenience in the arm or shoulder, but that it was weaker than its fellow. His general health was unimpaired.

This patient died in the month of March, 1831, consequently two years and eleven months after the operation. His disease, as I was informed by Dr. IRWIN, who attended him, was an ulceration of the bladder. Dr. I. says that the right shoulder remained in the state which I have described.

Maracaybo, March 19th, 1833.

MEDICAL EDUCATION AND INSTITUTIONS.

Art. XIV. *On Medical Education.* By Samuel Jackson, M. D. Assistant Lecturer to the Theory and Practice of Medicine and Clinical Medicine, in the University of Pennsylvania.*

THE commencement of man's existence is in the feebleness of infancy; he passes through the light-hearted and thoughtless period of childhood and youth which powers gradually expanding, acquires in manhood the development of his energies, ripening into the fulness of maturity; and, in his natural career, sinks into the decrepitude of age, when, the forces of nature expended, he fulfils the law of his destiny—the mandate of his Creator—terminating his being in this world, by the dissolution of his mortal frame.

In this progress of individual being, we are presented with the prototype of all human relations.

The social condition of our race, in its beginning, was powerless and dependent. It has no memorial, for it was incapable of perpetuating its events or its opinions; all are buried in the profound obscure. It opens in a period of fable and superstition: for ignorance rashly undertaking to explain every thing, is wild and unregulated in its conjectures, which it substitutes for facts.

The ungoverned savage is gradually moulded into civilized man; the rude polity of barbarian tribes is slowly shaped into the complicated machinery of refined and cultivated communities: and it is in the revolutions of distant ages alone, that we can rationally expect, that the perfect civilization of man—the exaltation of his intellectual and moral faculties—the ascendancy of his reason over his brute passions and organic instincts,—will be finally consummated. For, although we are accustomed to account the present as a highly civilized state, it is impossible calmly and impartially to regard it, and not be struck with the numerous features of barbaric character and feudal origin, still stamped on the customs, opinions, and governmental institutions of the age.

While the nobler and more exalted faculties are made subservient to the inferior and abasing; while violence is the substitute for reason,

* Delivered as an Introductory to the Course of the Institutes of Medicine, in the University of Pennsylvania, for the session 1833–4.

and blows and arms are employed as arguments; while differences of opinion and the collisions of interests are determined on the battle field, by the conflicts of opposing hosts; while right, and truth, and justice are interpreted, and decided by slaughter, havoc, and rapine; while the energies of society, the wealth of nations, and the force of governments, are directed, almost exclusively, to the devising and the perfecting of the means for the destruction of the race, and not to its education, its refinement, its moral and intellectual advancement—to the illustration of truth and the exposition of error,—boast as we may, impartial truth will pronounce, that, though a reasoning, man is not yet a perfectly rational being;—that, though less a savage, he has not yet entirely passed beyond the limits of the savage state. The destined perfection of which he is susceptible, can only be seen dimly figured in the far distant and obscure vista of remotest time. It can only be expected, when the good and the beautiful, emanations of divine truth, occupying the soul of man, the empire of reason will reign supreme, and he shall be the master, not the slave of his appetites, propensities, and passions.

For then, from long and profound cultivation, knowledge being immensely expanded and strictly accurate, false opinions will be rarely formed—and error, in the blaze of intellectual light, will scarcely find a spot wherein to harbour. Let not this conjecture be looked on as wholly visionary. Though the organization of man will always remain as it is, yet, as knowledge is progressive and capable of perfectibility, and man is what knowledge makes him, he is, through this medium, susceptible of a state of social perfection, of moral and intellectual exaltation, of which it would be deemed wild enthusiasm to utter the thoughts that rise before the imagination. For a moment let us endeavour to conceive what vast results would flow, if the enormous sums annually expended by the nations of the world in the prosecution of wars, the maintenance of armies and fleets, the erection and support of fortresses, and all the other means and appliances of destructive warfare, were appropriated to the cultivation of mind, the improvement of knowledge, the general diffusion of superior education, to the moral advancement of man—What, in the course of a few centuries, would he be? Certainly no more the creature he now is, than would be the savage of our wilds, could philosophic truth be made to penetrate the darkness of his intellect. Too surely the destiny of our race is not yet accomplished. But, this is a digression into which insensibly we have strayed, and from which it is now time to turn our attention, and pursue the more immediate subject of our discussion.

All the arts and the sciences, the creations of human genius, instigated by intuitive tastes or instinctive wants, exhibit the same order of progression. Rude and undigested in their origin, they tend towards or attain perfection with different degrees of rapidity—some arriving at their complete development, while others continue to struggle with the difficulties that embarrass their progress.

Our science presents this character. In its primitive state, it did not form the object of a distinct profession, but was, even as we witness often at the present period, a common pretension claimed by every one, based on the grossest empiricism. We are told by Herodotus, that the sick were often exposed on the highways, that the passers-by might suggest what means they had known to be successful under similar circumstances. Strabo relates that the same custom prevailed in Spain. More advanced, it became the appanage of the Priesthood, who acquired experience from the numerous sick who crowded the temples dedicated to the healing deity, from whose immediate agency they expected to derive succour, and to secure their safety.

Devoid of self-sustaining principles, medicine was compelled to seek support from collateral aids. For a time, it reposed in the embraces of Grecian philosophy, and was indebted for its fundamental dogmas to the doctrines of the various schools, constituting the speculative science of that highly-endowed race, and intellectual age. Passing thence to the modern era, medicine was plunged into the depths of darkness and superstition that engulfed the human understanding. Cabalism, theosophy, magic and astrology, furnished the basis on which it was erected. Escaping from these absurdities, it sought refuge in, and looked for assistance from the visionary speculations of the alchemists. It then became a department of physics and mechanics—was next allied to the wildest metaphysics, and connected with the rudest chemistry. It has been alternately a doctrine of humoralism, solidism, vitalism, and always more or less deeply imbued with dogmatism and empiricism.

From this imbecile dependency on other departments of science for its principles, medicine is now rapidly escaping. It has assumed in the circle of the sciences an independent station. It is forming the body of its science, looking for and attempting to establish its fundamental dogmas in the coördination of its own facts; first verifying the truth of its facts.

Medicine, you then perceive, gentlemen, long as it has been cultivated, is not a perfected science. Along with the civilization of our race, it lags far in the rear of that more glorious, it may be said,

ineffable condition, to which in the progression of time it will attain. You must not, therefore, in the pursuit of medical knowledge, repose implicit faith in the opinions, the dogmas, or even the facts you will learn. It is better to regard every thing with the sceptic's eye. Our science is one of investigation. You are here for the purpose of learning all that is known of medicine at the present day; of being taught all that investigation, carried up to the actual period, leads us to believe is true; but you are not bound to receive it as proceeding from the hallowed oracles of inspired truth.

In these halls you appear for the first time on the stage of life, in a new character. You have ceased to be scholars and pupils of scholastic institutions, with duties limited to prescribed tasks which you are bound to learn. You are the disciples of a high philosophy, at the discussions and investigations of which you now assist, and in which, finally, you are actively to partake. New duties now devolve on you, pertaining to your new character.

You have arrived at an epoch of life. You have terminated one era—you are at the commencement of another. The period and education of youth are closed—the education of manhood and the pursuits of mature life now open on you. The first should have been preparative and initiatory of the last. They are not the same in nature or intention; they must not be confounded together; and it may be important to you, in the commencement of your new career, and greatly facilitate your advancement, to place you in your proper position, and on the best route to be pursued; to point your attention to the differences between the two, and to direct your reflections on the nature of that you are now engaged in.

Education, it is too frequently, yet erroneously supposed, is the imparting of knowledge; and schools and teachers are believed to be the media of its communication—the means of its acquirement. Let any one, however, reflect, how little of the immense stores of knowledge, is, or can possibly be acquired in courses of instruction, and he must be satisfied, that such is not, cannot, and should not be the exclusive, or chief end of education, and should not be attempted. A higher and more important purpose is to be accomplished. The faculties of the understanding require, like all other faculties, for the development of their energies, an appropriate training; each of them is to be invigorated—the senses, perception, memory, reason, judgment,—by the exercises fitted to each; and above all, the intellect should be disciplined in those operations by which alone it is enabled to acquire sound knowledge, and is rendered capable of its noblest and greatest effort—the power to distinguish and receive truth.

These are the great purposes to be aimed at in an education truly philosophical. It is not the mere possession of the senses and faculties of the mind, that confers on man the privilege of thinking, of reasoning, of judging, of knowing: he must be instructed to employ them aright; he requires to be taught to think, to call his intellect into action, to reason, to reflect, to judge, to know for himself. The number of mankind who thus act is small indeed. In the language of the psalmist it may truly be said of them—"Eyes have they, but they see not; they have ears, but they hear not;" and it may be added, with understandings, yet they understand not.

The duty of thought is almost universally abandoned to a few. The dicta, the phrases of some worshipped leader, not always the most meritorious or deserving of confidence, and which often are not even comprehended, are implicitly adopted by the multitude,—are made the rule of conduct, the standard of excellence, and "anathema" is cried upon all who pronounce not the shibboleth of a sect, or do not answer in the watchwords of contending factions and of wrangling schools.

The history of mankind presents a series of delusions, that have ruled his intellect, that have made him a slave to the passions, the prejudices, or the designs of a few; that have stifled knowledge and extinguished truth; that have arrested the progress of civilization, and almost created a doubt as to the universality of the attribute of rationality. Men have met and fought in fields of carnage, have persecuted, have destroyed one another, like ferocious animals, for differences of opinions and dogmas, maintained with a blind fury, which, in subsequent periods, are universally rejected as too gross for credence. These are the fruits of error—the consequences of a false and defective system of education, leaving the mind undisciplined and incapable of acting for itself, devoid of the means, habits and processes of ratiocination; its irregular energies abandoned to the direction and excitement of those who are disposed to employ them for their own advancement and interests. Man, then, loses his individuality, and is but a component part of a physical mass, moved and governed by exterior agency.

The important object in education, should be to avert this unhappy state of intellectual nullity—to form the habit of investigation, to conduct the mind to the comparison of things, estimating their similitudes and differences, arranging them in their respective and appropriate classes, and expressing them in precise formulæ. A just education is much less the communication of knowledge, than instruction in the methods of acquiring knowledge—by examination and re-

flection—experience and induction. Whoever is desirous of mastering the difficulties of a science, must rely chiefly on his own instruction—dependence on others, will ever throw him into a sciolism, always inefficient, often contemptible. He must labour in his own vineyard, who would be rewarded with abundant harvests, and would gather the choicest fruits.

The education you have just completed, it has already been remarked, is preparatory. It embraces two objects: the first is language, or the signs representing or communicating simple ideas, that is, words; and the artifices by which words are combined, arranged and modified so as to express the operations of the intellect in the formations of reflected and compounded ideas—the distinctions between them, and the formulæ for their expression—or what is called grammar and logic. This department of education is fundamental—essential to the completeness of every other; is vastly important to a perfect method of study, and the acquisition of knowledge.

It is language that pours the mind of one man into that of another. It paints the thought, gives it a palpable existence, an individuality, by which it may be seized on and appropriated. It is in language that the mind finds immortality, while the body perishes in the dust. It is language that preserves to us the thoughts of the great, the learned, the wise, the good of all ages; making them heir-looms of the race, descending from generation to generation, transmitting lessons of wisdom and of virtue, enlightening, instructing, benefiting, elevating, and improving their species. But, for the communication of ideas for useful purposes and an accurate comprehension of ideas, language must be the exact representation of the idea; it should be clear, precise, simple, and the value of each word be express, limited, and definitely explained. Many of the disputes that vex mankind, and fill the world with discord and embittered feelings, turn merely on words or phrases, taken, without the parties being aware of it, in meanings entirely different. Words, as Burke most justly observes, are things.

A second object embraced in this preliminary education, is the power of numbers—the equations of magnitudes—the laws of the forces imparting motion to bodies—that is, arithmetic and algebra, or calculation; geometry and mechanics, or collectively, mathematics in the fullest acceptation of the term.

Education thus composed, is a series of exercises adapted to every faculty, by which, systematically pursued, the organization of the mind is corroborated, and its powers fully displayed. By these exercises are its wild and irregular impulses restrained, while they con-

troul its fitful and wasteful sallies; they direct its forces and regulate its movements by a severe and exact discipline; they harden it to toil, and qualify it for application; they prepare it to grapple with the abstrusest subjects of philosophy, and for the achievement of noblest conquests over opposing difficulties; they arm it with power to drag from the deepest recesses of nature her most hidden secrets, and crown its triumph with the never-fading chaplet of immortal truth.

Such has, or should have been, the preparatory education, introductory to the scientific and profounder education, you are about to commence. The more complete this has been, the more thoroughly you have been imbued with its principles, and have deeply imbibed its spirit—the fewer difficulties you will encounter to embarrass your course; the more easily you will clear the obstacles that oppose your progress; the loftier the station you will be enabled to reach in your profession; the brighter your fame; the richer your reward.

You must remember, gentlemen, that it is not a mere art—a collection of practical maxims and precepts, handed down from generation to generation, requiring but a limited degree of intelligence to put into successful operation, which you come here to commit to memory as a scholar does his rules. You devote yourself in these halls to the acquisition and cultivation of a science—of a deep philosophy—composed of facts developed by painful and laboured investigation; and principles, determined solely by critical analysis and rigid logical induction, and which can be applied only under the guidance of extensive information, and a sound, discriminating, and disciplined judgment.

The course of study you have selected, and on which you now enter, is a medical education. You propose to perfect yourselves in the knowledge of the most difficult of the practical sciences, created by the inventive genius of man, for his defence against the most desperate of the evils that assail his existence, and blast too frequently his prospects of happiness, in this state of being. It is difficult, from the immense multiplicity, the complexity, and obscurity of its facts, and the recondite nature of its principles. You aspire to the attainment of a most gifted character, and the assumption of a deeply responsible office. You seek to become a practitioner of medicine—the seer who looks into, comprehends, pronounces on, and regulates the laws and phenomena of vitality—the pilot who guides the frail bark of human life in safety through the myriads of difficulties that beset, the perils that environ, and the dangers that threaten it on every side.

Let us now, gentlemen, survey the field of your future exertions: the subject which is to be the great concern of your hereafter exist-

ence. It demands your most deliberate consideration. Contemplate it well—comprehend thoroughly its nature. You will, then, be enabled to understand, adopt, and pursue a system, that will greatly lighten your labours, abridge the period of your exertions, and confer on you a proficiency, full and complete.

Medicine, as every other science, is divisible into two portions, and may be treated in two different manners: the one historical, the other philosophical. The first, or historical division, embraces the progress of the science, in each department, from its inchoation to the present time, and exhibits the gradual evolution of facts, the various speculations, hypotheses, theories and systems, that have alternately prevailed, and enjoyed a short-lived reign. This information is of the greatest utility. It exhibits a view of the errors of those who have preceded us; and warned by their example, we are taught to avoid the mistakes that proved fatal to them; we are made to witness the struggles of powerful intellects, shackled by the bondage of false methods, vainly attempting to grasp at truth. It presents us with all that has been tested by the ordeal of time, of observation, and experiment; we learn to distinguish the spurious and false in fact, to know the approved and substantial; we are spared the mortification of proposing as original, what has been long known, and of adopting as true, errors refuted, condemned, and exploded. The immensity of the details comprehended in this division of the science, necessarily excludes them from courses of lectures. They are not to be found in the text books and manuals, too frequently alone perused by the student, and the sole library of the practitioner, and can be acquired only by a diligent review of the standard writers of the science.

Although this first or historical branch, is exceedingly useful, and by no means to be neglected, it is less important, especially in prelections, (which ought to be chiefly exegetical of a science,) than the second or philosophical division.

In this branch, are included two objects—1st, principles—2d, the verified and incontestible facts of the science. On a knowledge of both, depends its successful application to practical purposes. The principles of a science are its animating spirit; the only rational object of its cultivation is their establishment. Facts are to be investigated and verified by observation and experiment—the only means to be relied on. But the attestation and verification of facts, are no otherwise useful, than as they enable us to determine principles, and to institute theories; and, if we err in theories, it is, either that the facts are imperfectly known,—or, what is furnished to us as facts, are false. When facts are confirmed, a philosophic genius never fails

in its generalizations, and soon establishes a sound theory of universal applicability; offering the solution of myriads of phenomena. A genius of this character, immediately perceives the similitudes and dissemblances of things; embraces, analyzes, and distinguishes the slightest particularities of objects; comprehends the entire mass in its view; recognises the points in which many million of phenomena meet in perfect accordance; and deduces, from a study of their general relations, their reciprocal connexion and mutual dependence, the causes or laws regulating their production. With this concentration of the faculties, directing the senses to the perception and examination of substantiated facts; their arrangement and classification under appropriate heads; their generalization, or reference to general points of view, are readily accomplished. The facts are then incontestible, the theory is completed, and the science rapidly tends to perfection, as a speculative philosophy and a practical art.

Principles and facts, in a science, are most intimately associated. The facts, ascertained by observation and experience, are the materials of the science; but they are not science. It can have no existence until principles are evolved, or theory is perfected. The mass of facts made known through the medium of the senses, must be arranged in order by the reflecting powers of the mind; and the connexion of casualty must be discovered among them, before they can be recognised as constituting science. Facts alone, are a chaos susceptible of form, but a mere void, until the creative spirit of philosophy breathes on the irregular mass of commingled elements: then, light and truth burst on the profound obscure; form, existence, order, harmony, rise successively into being, and science owns its birth.

In all science we observe, then, that principles are its beginning, and its end; and facts are to be studied, observed and verified, for no other purpose than the elucidation of principles, the only unerring guide to a correct practice. He who would undertake to make a practical application of precepts, yet is utterly ignorant of principles, would unquestionably commit the most melancholy blunders, when unexpected complications created the necessity for new combinations; and in medicine, such complications and exigencies, requiring promptness and resource, are of daily occurrence. The first object, therefore, in the study, and in the tuition of a science, it is obvious, should be, the knowledge of its principles. Yet, it is unhappily true that, in all the systems of education, principles, if not entirely contemned and denounced, are the last to be thought of; and when they become the subject of investigation, the mind, surcharged with pre-

judices, and stuffed with conceits, is incapable of receiving simple truth.

"What sentence," to use the language of a celebrated writer, "shall we pronounce on a system, which thus reverses the clear and evident order of things? which overloads the memory with facts, and these frequently of a doubtful description; while it leaves the mind entirely in the dark with regard to principles, that would alone render the heterogeneous mass of any advantage or avail."

It errs still more grossly, in instilling too profound a reverence for celebrated names of past times, setting up authority for truth instead of truth for authority. It bestows learning, but not wisdom; and "learning without knowledge," as the same eloquent and judicious writer remarks—

"Is but a bundle of prejudices; a lumber of inert matter, set before the threshold of the understanding, to the exclusion of common sense. Pause for a moment; recall those cotemporaries who are generally considered learned men and well-informed. Tell me, has their information or their learning made them a whit the *wiser?* if not, then it is only sanctified ignorance. Tell me, if with them, names are a sanction for opinions; authorities are the equivalents of truth, and quotations the representatives of axioms. Then, all they have learned only serves as an excuse for all they are ignorant of. The great, the fundamental error of education, is to occupy the mind with antiquated authors, and then to try the principles of the present day, by the authorities and maxims of the past."

This method is most injudicious and unwise. Man commenced his social existence, in all its relations, in ignorance and barbarism. He is endowed with faculties that empower him to improve, to ameliorate, to elevate his condition. But his first steps, in the profound darkness which surrounds his intellect, are uncertain, wandering, and faulty. He escapes from the errors inevitable to his state, by slow degrees; he breaks from the entanglements of false opinions and systems, only with painful and protracted struggles. The older are opinions, facts and doctrines, the more probable they are untrue, the less reliance is to be placed on them, unless confirmed by modern observation, experiments and principles. It is not sufficient to sustain an opposite opinion, that instances may be cited of powerful intellects that divined some scattered truths, verified by recent investigations. They were happy guesses, treasures accidentally found, and not the result of systematic proceedings, which can be adopted with advantage. As well might we be summoned to bow in reverence and confess the inspiration of the Pythoness, because, from the tripod, in her wild delirations, she uttered occasionally the words of truth.

Dismiss, then, gentlemen, from you, undue reverence for mere authority. Let it not take deep root in your minds, or they will be incapable of admitting new truths, conflicting with adopted opinions. Scepticism is no crime in medicine. We acknowledge no oracle but nature. Whatever doctrine you find in books, or hear in lectures, subject it to the ordeal of observation, experiment and reason. If it cannot be referred to some established principle, should you not dismiss it as unsound? at least hold it in doubt for subsequent consideration?

The course that will be pursued in these lectures, will be the reverse of the ordinary method. Passing by the mere learning of the science, the doctrines and opinions of past periods, we shall confine ourselves to knowledge—to that only which is practically useful. Our exclusive object will be, as alone essential to a course of instruction, the doctrines of the present day, the verified facts and the principles of the science. After the completion of the course, then, having access to the well-stored libraries of this city, rich repositories of all the treasures of medical literature, you can glance over all that has passed away, as researches chiefly curious, yet not without a measure of utility.

I have dwelt with no little emphasis on facts and principles, as alone constituting knowledge, and forming the entire end of science. But you have a right to demand, from so much stress being laid on these points, what is meant by facts, what are principles? It might, to the superficial, seem strange, that any doubts could be entertained on these subjects. Yet, I am persuaded, that, simple as they appear, they are not properly understood; otherwise it would not so frequently occur, that what is given for facts, are not facts; and what is enunciated as a principle, is not a principle.

What, then, I mean as a fact, and wish so to be understood when I employ the term, is a simple, indivisible phenomenon, presented by a natural object, ascertained by the senses from careful observation, attested by the experience of thousands, the same in all ages, and verified by reiterated experiments. That alone which embraces these conditions, can be regarded as a fact in positive science, or be admitted in a strict philosophy. How few of the facts of medicine have been of this character. A single observation occurring in a single case, often a mere casual incidence, is hastily promulgated as a fact, and from it, is rashly deduced a practical precept. This loose unphilosophical proceeding, has overwhelmed the science of medicine with false facts. It is they which have retarded its onward march of improvement, infinitely more than false theories. On this point

we have the testimony of Dr. Cullen. In medicine, observes the Edinburgh professor, there is infinitely more of false facts, than false theories.

Having shown what is to be understood by a fact, let us now proceed to ascertain what we mean by a principle.

The phenomena of natural bodies, exhibit common points of resemblances and dissimilitudes, ascertainable by the senses. They are thus distinguishable from each other, and are to be separated into various divisions according to their nature. All the phenomena of any department, which in their essential circumstances are exactly the same, have the same cause, and constitute but one fact, which is the first in that series of phenomena. This primary fact is, then, a generalization of innumerable facts; the concentration of a thousand facts into one; and this general fact is a principle from which all the series of phenomena below it, depend immediately or secondarily. Each phenomenon is in itself an effect of one which has preceded it, and is a cause of that which succeeds to it. Phenomena, in this manner, form numerous series, and are capable of being expressed in formulæ. These formulæ are laws, and when they are completed by an exact arrangement of the phenomena, each in its proper connexion, then a science has attained its perfected condition, and its practical calculations and proceedings are susceptible of application with unerring certainty. The progress of a science towards truth, is always the reduction of a multiplicity of facts to a few general facts or principles; from confusion and complexity, to clearness and the simple. We may receive it always as prima facia evidence, that the route we are pursuing is the road to truth, and be induced to persevere in our course, when we find such to be its results; that we are escaping from a multiplicity of details, obscuring the sight, and opening on a less obstructed view; that the immense host of facts in which we found ourselves lost and bewildered, gradually settle down into regular form and order.

It has been the design of the preceding remarks, to enforce on you, that the acquirement of knowledge, and the discipline of the mind in its acquisition, are the main purposes of your present education, and should govern the courses of your instruction. To remove all obscurity with respect to my views or mode of understanding these subjects, it is now incumbent on me to make to you a declaration of what I regard as the proper objects of human knowledge; the subjects alone embraced in scientific perquisition.

The universe, of which man is a component part, is composed of innumerable bodies, each endowed with or manifesting certain speci-

fic properties, and holding with each other positive relations, and thus have the capacity of producing phenomena. A knowledge of the existence of these bodies, and consequently of the universe, is derived from the perception of phenomena by the faculty of sensation, with which man and other animals are endowed. Without the senses to perceive, existences would be unknown; the creation itself a void; the harmony, beauty, and order of the world thrown away, having neither object nor design. It is the faculty of sensation that makes creation what it is; and here we are presented with one of the most beautiful instances of the universal harmony pervading the great works of the Almighty Creator. We know the bodies of the universe, because their especial properties possess special relations with some organ, external or internal; and excite in the external senses, the specific phenomena of sight, of feel, of sound, of taste, of smell—or in the internal senses, awaken perception to the impressions they create, disturbing the state of being or functions of the organs. Knowledge, then, is and can be nothing else than the appreciation of phenomena by the senses, and the determination of their various relations and connexions, by observation, experiment, and rigid induction.

Diversified as are the forms, and different as are the properties and characters of the bodies of the universe, none are entirely independent. The whole are connected, act and reäct on each other, producing especial movements and particular phenomena, according to their distances, the volume, form, and disposition of their atoms or particles. Throughout the mighty chain of existences, each link of being is subsidiary to the other. The universe, or bodies composing it, thus constitute an immense extended whole, possessing the most perfect unity, incapable of the slightest disseverance in any part, without a fatal shock to all.

> "From Nature's chain whatever link you strike,
> Tenth, or ten thousandth, breaks the chain alike."

During the influence of the theological domination, which in a barbarous and darkened period of society, seized on and subjected to its controul, every species of education, man was separated as a distinct being from the rest of the universe.

In pride and vanity, it was taught, that for him alone was the universe made; he was the sole end and object of creation, with which he was connected only as its lord. Thus isolated, and falsely endowed with exclusive and peculiar privileges, his organization was a useless research; the sacred form must not be mutilated; it was sac-

rilege to study this sanctified being, in the same manner, and subject his composition, structure, faculties and actions to be investigated and explained, by the same methods, and on the same principles as those applicable to other beings. A just philosophy has humbled these idle and presumptuous pretensions; it has shivered into pieces this pageant idol of human pride and antiquated ignorance; and while man is recognised as the most complete and perfect type of organized beings, proceeding from the hand of the Creator, he has nothing distinct from them, excepting his more developed organization, composed of the same elements and materials of which all are constituted, even to the lowest of animated beings.

The philosopher-poet beautifully expresses the idea—

> "Nothing is foreign; parts relate to whole;
> One all-extending, all-preserving soul
> Connects each being, greatest with the least;
> Made beast in aid of man, and man of beast:
> All served, all serving: nothing stands alone;
> The chain holds on, and where it ends unknown."

In studying man, therefore, the particular object of our science, the same method of investigation, of acquiring knowledge and of philosophizing, is to be pursued, as with the other objects, even inanimate bodies of the universe. That is, we are to determine by observation, the phenomena he manifests in the various organs composing his economy; we are to arrange or coördinate these phenomena in the order of their production and mutual dependence, for each organic element, tissue and organ; we are to form a just valuation of these phenomena under a rigid and critical philosophy; and finally, to express them in formulæ of the greatest simplicity and precision.

Such is the nature of the knowledge required in a philosophical education of our science. The means for the acquirement of this knowledge, cannot be indicated to you at this time, but will form the subject of a distinct lecture.

The education I have pointed out in the preceding part of this discourse—as that which is demanded by the present improved state of science generally, and particularly of our science—is very different from that which has heretofore prevailed. I shall not enter into any argumentative advocation of it. I shall content myself with resting it on its intrinsic and self-evident merits, and trusting to your good sense to appreciate its just value. I cannot, however, avoid exposing to you the opinion of a very able lecturer, engaged in medical instruction in the metropolis of Great Britain, on the present system of Medical Education. It will be an evidence to you that I am not

alone in the opinion I have expressed; and am actuated by no selfish and sinister motives in this denunciation of the defective character of our system of instruction; but am influenced by a thorough conviction of its inutility for the attainment of the great end of a complete medical education, such as is worthy of the science, arranged on a philosophic basis, calculated to advance and perfect our knowledge, to elevate and dignify our profession:—

"The loose, immethodical, and unphilosophic manner in which medical education has been, and is too often taught, is one of the leading obstacles which have checked its progress towards the completeness of a science. The observer of a few facts, the physician of a few patients, assuming the importance of philosophers, soon weary with tardy and laborious investigations, and find it an undertaking of more easy accomplishment, to guess at and generalize upon subjects which require much time and talent to investigate. Hence does it happen, that more *discoveries* are often made during one year, in medicine, than the labours of two centuries can consign to oblivion. The tedious process of watching attentively, comparing cautiously, and inferring slowly, is badly calculated for an enterprising speculator, who cultivates his profession as the mechanic does his trade, and whose zenith of ambition is accumulation of wealth or the acquisition of friends. A few months spent in hearing a few lectures; as much study endured as is indispensable to escape public censure before a trifling ordeal; and as much money paid as can procure a few manuals, and secure the *entree* to the prescribed round of classes, are deemed by most students—ay, and by most parents too, a sufficient preparative for the exercise of one of the most recondite and responsible professions to which an enlightened mind can be devoted! The effects of such a jejune system of education have been a long time felt, but are only beginning to appear. Now that philosophy has overstepped the walls of chartered schools and sequestered colleges, and walks abroad in open day through every class and section of society; now that the human understanding will be no longer trammeled within the fetters of prejudice, and will not submit to the unsupported authority of imposing titles and more imposing privileges, the consequences of such a wretched system of medical instruction, cannot now remain unnoticed by the public, should even the faculty still feel inclined to encourage it. Our surgeons and physicians must cease to make merchandize of physic; medicine must be taught and studied as an inductive science, rather than as a mysterious medley of antiquated jargon; and disease must be studied and treated more in the spirit of enlightened philanthropy, than with the mercenary views of a hireling."

To this I will subjoin a paragraph, extracted in a late number of the Lancet, from a communication in the Times, animadverting on some great absurdities committed in the evidence of several teachers, professors, and physicians to hospitals in London, in a trial on a life insurance case:—

"We never read any reports where medical evidence is given, without blushing for the state of *medical science in England*, and being convinced that

this branch of education is defective, not only as regards the inculcation of sound principles, but even in the application of undoubted facts to recognised principles. Certainly we are yet to lament the want of a well-governed school of medicine."

What, it may be inquired, is the remedy to this state of things? A reform certainly. But, in rational and highly civilized society, where the passions and interests of man, are not permitted blindly to rule, the first steps to reform, are to awaken to consciousness of existing defects; to produce a feeling of the necessity of reform, and a deep conviction of its necessity, in those whom it most concerns. The inventive talent of man, then, soon devises the best and most appropriate remedies for the evils he endures. He looks abroad, discovers the defects that defeat his schemes of happiness and amelioration; that oppose obstacles to his progress to a more improved condition; and escapes from their controul, by providing a better and more perfect system. If unopposed by arbitrary power, deaf to argument, and impenetrable by remonstrance, the change is wrought slowly but surely; is the work of time, and of reason; is more finished and perfect in its details, and is accomplished in peace and safety. Improvement is effected; amelioration has been attained; knowledge has advanced; and society, benefited in its state, marches onward to its destined perfectibility.

But if resisted in his earnest appeals for redemption from an oppressive condition, and in his aspirations for a better order of things, by inflexible prejudices, unyielding and pertinacious selfish interests, then, in political society, arise the excitements and storms of the passions, in whose wild tumults reason loses her ascendancy; rebellions and revolutions burst forth; the frame of civil society is rent and torn in the fierce collision; physical contests decide the questions that moral considerations, calm and rational deliberations should regulate, and can alone bring to a felicitous conclusion. In the rude commotions thus excited, and in the shock of conflicting factions, desolation is the substitute of reform, and in the place of improvement, we look aghast on a scene of ruin and destruction. The philosopher weeps over his blighted prospects of human perfection; the philanthropist sinks in despair.

The improvement and reform which the medicine of this country impatiently awaits, do not consist in the formation of *new schools*, formed on the models of old institutions, treading in the same worn-out paths, and perpetuating ancient errors and systems. It requires an entire and new reörganization of medical instruction, elevating it to the level of the science that has been lifted on the rising tide of

improvement far above the base where it was originally laid, and now nearly submerged by the whelming flood. It is a work that will never be accomplished by the rivalry of personal interests. It demands for its accomplishment the abatement of old courses, now too much considered, to their proper station; the introduction of new subjects, new branches and departments, of modern discovery and creation, and which are now composing the body of the science, yet which, unhappily, are so little known among us, that their names even to many sound strangely on the ear. With these changes, the prolongation of the period of instruction is essential.

It is true, that in such a change, new sacrifices, new duties, new tasks, new labours will be imposed on the student. But with them will come augmented honour, more brilliant success, higher consideration, and greater rewards.

Society is awakening to the true nature of our science, and more justly estimates the merits of its professors. Medical skill is not a gift of nature or an accidental endowment. It is the result of a well-educated and disciplined mind, acting on comprehensive stores of knowledge; and knowledge is the fruit of laborious application and incessant research.

Lessen your exertions now, refuse to meet and overcome the scientific difficulties of your profession, preferring inglorious ease to well-directed exertion, and you reap hereafter shame; sink into an humbling mediocrity, from which you never rise to fortune or to fame.

Can this reform be much longer postponed? I believe not. The interests of the profession—the immediate pecuniary interests of practitioners, are too deeply implicated, to admit that things should long continue in their present state. It cannot be concealed, that public confidence in the knowledge and intelligence of the profession has been shaken—has been most materially impaired in some sections of the country. Every where does empiricism abound. In many districts it is warmly patronized and encouraged, not by the vulgar and ignorant only, but by the respected and intelligent; and, in one state, I believe, has been legalized by statute. The ancient Galenical empiricism, long supposed completely at an end, is, in part, resuscitated; if not with all of its olden frivolities, with those not less extravagant of modern date. Whence arises this state of things? It is not from the observation, too apparent to the public, of the inferior grade of medical instruction? Do they perceive that wide difference in the acquirements of the regularly-educated practitioner, and the empirical pretender, which should always distinguish them? In the regular practice, has not the treatment of disease too much degenerated into

a blind routine, pursued in nearly every disease, however dissimilar in nature? Can it be denied, but that the only difference between the regular practice and empirical practice, is a routine treatment of merely different remedies, and not always to the disadvantage of the empirical method? In an arithmetical estimate, I apprehend, in the long run, the calculation of chances, by either plan, may appear equal; and then the difference in cost, will decide the preference.

There is but one mode of rescuing our profession from so degrading a rivalry; and that is, to raise the medical instruction of our country to a level with the philosophic character belonging to our science. Let medicine be, what in reality it is, a science of calculation, of combination, of induction, the elements of which are deduced from the phenomena of organized beings, and the relations of exterior agents with them, and you rise so infinitely above the crude and incorrect proceedings of empirical art, that the intelligent and observant, can never be deceived by its vain boastings, or its illusory pretensions.

A radical reform in medical education must before long be undertaken. It is not to be our task—we have done our duty, in showing its necessity. It belongs to a rising generation—on you may and ought to devolve the important task of effecting it. It is the young, the ardent, the zealous, and devoted, who undertake and succeed in great and important changes; and no work of greater magnitude, of deeper and more lasting consequences, could crown your well-directed exertions. To erect a system of medical education on the basis of positive philosophy, would place under obligations to you of the profoundest nature, society, your country, and the world. There is no achievement more worthy the measure of rational and honest ambition, or would surround its successful result with a brighter halo of imperishable renown. Let this be your work and such your reward.

REVIEWS.

ART. XV. *Memoir of the Life and Medical Opinion of* JOHN ARMSTRONG, M. D. Formerly Physician to the Fever Institution of London; Author of "Practical Illustrations of Typhus and Scarlet Fever," &c. &c. *to which is added an Inquiry into the Facts connected with those forms of Fever attributed to Malaria, or Marsh Effluvium.* By FRANCIS BOOTT, M. D. Secretary of the Linnæan Society; Honorary Member of the Medical Society of Massachusetts. In two volumes. Vol. I. London, 1833.

THE circumstances of the life of JOHN ARMSTRONG, and the claim made for him to important improvements in the theory and cure of diseases, render a history of his life and opinions an object of no small interest to the profession. Neither the condition of his birth, nor the character of his early education, furnished indication of future distinction of any kind. We do not allude in this remark chiefly to the humble occupation of his father, as a glass manufacturer, for there are not wanting many examples of men who have risen from an origin much more unfavourable to an eminence far more elevated than ever Armstrong attained; nor to the fact, that at eight years old he could not read, and "was considered by his friends incapable of learning," for other stupid boys have turned out to be able and enlightened men. The unpromising circumstance in his case was, that he was ignorant and stupid, not for the want of opportunity, but for the want of inclination to learn. It was not that he had never been taught, that he was unable to read at eight years old, for he had been kept at school from an early age. His biographer attributes this ignorance to bad teaching; and bad indeed must have been the teaching that could not impart the power of mere reading in four or five years constant instruction; and he refers for proof to the fact that he afterwards learned with rapidity. In six months with a new master he could read distinctly.

"And," he adds, "after he found that he could learn, he studied the English language, Latin, Greek, and Mathematics; and having acquired a confidence in himself, his delight seemed to be to excel in every thing to which he turned his attention."

The truth seems to be that he was constitutionally indolent; with power of acquisition enough when he chose to apply it, but with little

disposition to make the application, except when stimulated to the exertion by strong and peculiar motives. At the age of sixteen he left Mr. Mason, at whose school he had made such progress, and was placed with a surgeon and apothecary. This situation, although he had shown an early inclination for the medical profession, he soon left, contrary to the wishes of his parents, and remained at home, passing, it would seem, an idle, desultory life for two or three years.

We have dwelt the more on these particulars, because we think we perceive in them strong traces of this same character in his subsequent life. Whatever may have been his acquisitions during his eight years with Mr. Mason, he surely did not acquire a love of knowledge. He learned the English language well certainly, for we have few better or even so good writers in medical literature; his Latin and Greek have been disputed. He had strong powers undoubtedly, both of acquisition and of observation. But he wanted the industry necessary to cultivate the former, and hence he not only never became, even a moderately-learned man, but acquired a disregard for learning amounting almost to contempt. And in regard to the latter, his powers of observation, he required a strong stimulus of personal interest or ambition to induce him to exert them effectually. When he exerted himself rigorously, both in youth, and in his after life, he made rapid advances, and produced important results. But his efforts were inconstant and irregular; and therefore his early acquirements were extremely imperfect, and his later productions incomplete. His great, not to say excessive confidence in his own powers, enabled him to meet any emergency into which he was thrown with little preparation but such as the occasion afforded; and thus he was led the more to disregard habits of steady application; consequently he postponed and neglected much that he was extremely anxious to have performed; so that although he seems to have cherished with some fondness the belief that he had made highly important discoveries in medical science, which should confer distinction on his name in all succeeding generations, at the last, he left it to a friend to record, as well as to publish, the matured version of those opinions in which his discoveries were contained, and which were to perpetuate his fame.

At the age of eighteen or nineteen Dr. Armstrong entered as a medical student in the University of Edinburgh. Here he was precluded by the narrowness of his circumstances from extending his studies beyond the course indispensably requisite to a medical education. As soon as he had obtained his medical degree, in 1807, he returned to Sunderland, his native town, and engaged in practice as a physi-

cian. The successful treatment of a wealthy and esteemed gentleman, to whom the friendship of a young university acquaintance had introduced him, gave him an early reputation, and established him at once in a valuable practice.

It was not until 1813, after he had been nearly six years in practice, that Dr. Armstrong appeared before the public as an author.

"His first publication," says our author, "was a short paper on the brain fever produced by intoxication, communicated to the Edinburgh Medical and Surgical Journal, then edited by the late learned and excellent Dr. Duncan, jr. It bears date November 13th, 1812, and was published in the number for January, 1813. This was followed by another paper on the same subject, in the succeeding number for April, in the same year, in which a case is fully detailed, with some very judicious observations on the nature of the malady, which in the example referred to, invariably arose in the collapse succeeding to the excitement of spirituous liquors," p. 11.

Dr. Boott adds—

"Having once ventured before the public as an author, he appears to have suddenly felt the ambition of arriving at distinction in his profession; for in this year, besides the papers alluded to, he contributed another to the same Journal, on cases of diseased cervical vertebræ; and in December he completed his 'facts and observations relative to the fever commonly called puerperal;' a work which was dedicated to his friend Dr. John Ramsay, of Newcastle, upon Tyne," p. 12.

Besides one or two other papers in the following year, he published in the same Journal in 1815—

"Brief Hints relative to the Improvement of the Pathology and Treatment of those Chronic Diseases usually termed Nervous," which, says Dr. B. "he thinks are generally secondary affections, inseparably connected with disordered circulation; and that if fixed principles as to their treatment are ever to be attained, it must be accomplished by extending our views beyond the nervous system to other textures; for that it will be found on examination they depend upon venous congestion or inflammation, and their consequences, or upon some disorder of function or structure in the viscera of the three great cavities."

We have noticed this series of publications chiefly as illustrating the course of observation by which Dr. Armstrong was led to the opinions which he formed, and soon after published in regard to typhus fever. We see him in each of these several diseases, instead of regarding the debility attending it as the essential feature of the disease, and the primary object of treatment, refer it to its true position as an effect of a preëxisting derangement, either of structure or function, which demands the chief consideration, both in the pathology and in the treatment of the disease. This is the leading cha-

racteristic of his work on typhus fever, which was first published in 1816, and which was the principal basis of his subsequent reputation.

"This admirable work," says our author, "at once raised him to a very high eminence in his profession. It passed through three large editions in three years, and was received almost with acclamation by the medical public, not only in this country, but throughout America, where it obtained for him, from some of the most eminent professional men, the name of the modern Sydenham."

Armstrong's "Practical Illustrations of Typhus," is a work so well known, that we need not follow our author into an examination of its character or its merits. Neither is it necessary for us to go into a very full examination of the justice or the extent of his claim to an important improvement of the pathology of febrile diseases. That Dr. Armstrong's views on this subject were in a great degree original in his own mind, there can be no doubt. Nor is there any more room to doubt that the general principle maintained by him, that the prostration and debility of typhus, as well as of many other diseases, are, to a great extent at least, the result of a previous excitement, has led to a most important improvement in the treatment of febrile diseases, as compared with that system which regarded debility as the chief object of attention and treatment. It is perhaps equally true, that to Armstrong much of the credit is due of bringing about so extensive a change in the opinions and practice of physicians. His bold and energetic style of writing is well adapted to produce a powerful impression.

It is no less true, however, that similar views had already taken possession of the minds of many others as well as of his. So great a revolution in the public sentiment of the profession could never have been brought about by the writings of a single individual without an extensive preparation in the opinions of a great portion of the profession, either already formed in its favour, or in a state of rapid progress towards it. Armstrong may have been the first, and it is no small praise to him that he was so, to embody these new views of disease into a distinct form, and to give expression to them, so as to exert, a powerful influence upon the pathology and treatment of fever, over a large portion of the civilized world; although many others may have imbibed similar views, in common with him, before they had learned them from his publications.

The success which Dr. Armstrong's work on Typhus met with, and the celebrity which it brought him, excited him to seek a more extended field of practice, and in 1818 he removed to London. To

those who have any adequate knowledge of the slowness and difficulty with which a stranger obtains extensive practice in a large and busy town, it will not appear strange that Dr. Armstrong's early success in London was less encouraging than he seems to have anticipated, or that he had overrated the effect upon his professional prospects which he expected from the popularity of his writings. The influence of successful professional publications upon the public at large, is doubtless much greater in England than it is in our community. But there this influence if left to itself must have been much too slow in its operation, for the necessities of a man who had to rely upon the practice he was to obtain to support a family already consisting of a wife and two children. That Dr. Armstrong succeeded at all, so as to sustain himself in London, and ultimately to arrive at distinction there, seems to us to have been owing, in a great degree, to the very circumstance which, in its first occurrence, appeared the most to threaten to be the cause of his entire failure. We allude to his rejection by the examiners of the College of Physicians. We give Dr. Boott's account of this event in full.

"In the spring or summer of 1818, Dr. Armstrong presented himself for examination at the London College of Physicians, conformably to its regulations, which require that the graduate in medicine of any other University than Oxford or Cambridge, should pass the ordeal of its favour, and obtain its license before entering upon practice in London, or within a given distance of the metropolis. He had, perhaps, undervalued the estimate which the board of examiners place on classical diction, and the alphabet of the profession; for this distinguished physician, who had received a diploma from the most efficient and most celebrated school of medicine in Great Britain—who had been in successful practice eleven years, and was the author of three of the most popular works which the medical press of this country had ever put forth, the fame of which was still sounding in the periodical journals of the day, was rejected as incompetent to continue in the practice of his profession in London, and as undeserving the honour of having his name enrolled among the members of the college."

"This public stigma," he continues, "of the justice and motives of which I leave to others to judge, was not without its natural and perhaps salutary effects upon the sensitive mind of Dr. Armstrong. His nature was mild, but too dignified to submit to insult and unmerited wrong, which threatened injury to his own reputation, and ruin to the welfare of his family. He did not admit the necessity of any particular attention to his profession to qualify him for passing the usual examination the next year, as he was aware that the first rejection was generally the only one. But he felt roused to the due assertion of his own claims to respect; and from the impressions which this act of wanton power made upon him, are to be ascribed much of that indignant tone which afterwards sounded in his lectures on scholastic institutions," p. 29.

We feel little interest in the controversy which arose between Dr.

Armstrong and the College of Physicians, and which has been repeatedly enacted and reënacted for the last hundred years, by successive claimants to some of the exclusive privileges of that privileged body. But the duties of boards of medical examiners are of so much importance, both to the public at large and to the profession, that we can hardly pass this transaction by without a few remarks. We do not perceive all the justice of the severe strictures upon the result of Dr. Armstrong's examination, as "an act of wanton power." If it be conceded that it was right that he should submit to be examined at all, it was indispensably necessary that the result should be determined by the extent of qualifications exhibited in that examination. It may be a question how far a board of examiners may be authorized to offset peculiar excellencies in one department of professional knowledge against obvious deficiencies in others. This is a discretionary power which always causes great difficulty and embarrassment whenever the exercise of it is called for; and in regard to which there are certain points beyond which it ought not to go. There are some things which every professional man ought to know; and if need be, he should be *required* to know them before he shall be received into the pale of the profession, and no degree of excellence in other particulars should authorize any board to dispense with them. To what extent Dr. Armstrong was really deficient in these "necessary things," we are not fully informed. We have, indeed, heard that he was deficient in the knowledge of some things which every man of science, and especially every professional man, is expected to know; and Dr. Boott hints at a failure in "classical diction," and in the "alphabet of the profession." We are not quite sure that we receive the right meaning of these terms. But if the meaning they are designed to give be that which they naturally convey to our own minds, we feel bound to say that in our opinion, Dr. Armstrong, as a man of science, as a member of a learned profession, still more as a teacher of medicine, had been much better employed in acquiring that "diction" and learning that "alphabet," than in "sounding his indignant tone on scholastic institutions."

The question still remains, however, whether the College of Physicians had any just right to require of Dr. Armstrong to undergo an examination before their board of examiners. He had already received a degree, and of course had undergone an examination at Edinburgh. Why should another examination be required of him? It must here be remembered that there was nothing personal in this requisition. The requirement is an universal rule; a dispensation from, rather than the enforcement of, which would have been an act of ar-

bitrary, if not "wanton" power. We must remark, too, that the authority which requires every practitioner of medicine in London and its environs, to be licensed by the College of Physicians, is not, as Dr. B. seems to suppose, one of the regulations adopted by the college, but is contained in the charter of the college, and is therefore a part of the law of the land. The College of Physicians have indeed adopted a by-law, and have pertinaciously adhered to it through every degree of opposition, which provides that no physician shall be elected a fellow, who has not taken his degree of doctor of medicine at one of the universities of Oxford or Cambridge. A more absurd rule cannot well be conceived of, nor one calculated to operate more injuriously on the character and condition of the medical profession within the sphere of its action. Neither of those universities furnishes facilities for a thorough medical education at all to be compared with such as are supplied by many other schools, both on the continent and in Great Britain. The by-law is therefore equivalent to an enactment that no man shall be eligible to the dignity and privileges of a fellow of the College of Physicians who has not contented himself with means and opportunities for professional acquirements decidedly inferior to what were equally within his reach.

This by-law does not apply at all to licentiates of the college, and had therefore no direct bearing upon the case of Dr. Armstrong, in regard to whom the question could not have been of admission as a fellow, but simply of license to practise medicine, as a person "profound, sad and discreet, gravedly learned, and deeply studied in physicke," (as the charter of the college expresses it.) Still the great body of licentiates have none the less reason to complain of its oppressive and unjust operation. For it not only cuts them off from all access to privileges, which ought either to be distributed equally to all, or, at least, open to honourable competition, and confers those same privileges arbitrarily upon men who are almost necessarily less deserving of them than themselves; but since the power of examination is exclusively in the fellows of the college, it subjects the licentiates to the scrutiny of men whom, by the same necessity, they can hardly fail to regard as their inferiors in real merit, notwithstanding their nominal superiority in title and privileges.

The general good of society, as well as the prosperity and respectability of the medical profession, demand that their should be in every community a competent tribunal, to decide upon the qualifications of candidates for medical practice; to distinguish, as the charter of the College of Physicians, granted by Henry VIII. expresses it, the uncunninge from the cunninge. Nor is it in all cases enough that the

candidate should undergo such a scrutiny only at his first entering into practice. If a physician remove beyond the authority of the body which first took cognizance of his qualifications, it is but reasonable that the community to which he goes should be furnished with the evidence of his fitness to be received into their fellowship. This need not always require a second examination. If the candidate present evidence of having passed a sufficient examination before a competent tribunal, such evidence may be received as an equivalent. This, however, is rather a matter of expediency in the examining tribunal, or of courtesy to other similar bodies, than of right to the candidate who presents himself; and there are cases to which it cannot apply.

Although it is true in the abstract, that the value of human life and health is the same in all places, and therefore that the qualifications of physicians should every where be the same, yet in actual practice it is far otherwise. That community which offers the most liberal remuneration to an enlightened and learned body of physicians, will demand and obtain men of higher attainments, than another where the rewards of the profession are of less consideration. The standard of qualifications for admission into the profession, must therefore be as different as the different states and wants of society. And it becomes the duty of each examining tribunal to judge of those qualifications, not merely as an abstract question, but chiefly in reference to the condition of the profession in the community to which they belong. This principle has been, and probably always will be regarded with some degree of jealousy by those upon whom it chiefly operates, and its execution has not unfrequently drawn a great deal of odium upon those who insist upon enforcing it. The man who goes from some interior or provincial institution, where he has obtained his professional education at half the cost, if not with half the opportunities, of those among whom he proposes to establish himself, takes offence that the testimonials he carries with him are not received as full evidence of his competency to share equally in their privileges; and the institution from which he proceeds unites perhaps in his indignation, and resents the rejection as an act of disrespect to itself. Yet both are unreasonable. Those to whom he would join himself have passed a severe scrutiny themselves; and they owe it to the community, which affords them a liberal remuneration, to sustain the full elevation of professional attainments.

Nor is there any serious difficulty in the practical application of the principle, complicated as it may seem, in the abstract to be. The statutes of each institution which fix the standard of preliminary education are published; and the conduct of each under those statutes

is generally matter of public notoriety. When a candidate presents himself to an examining tribunal with credentials from another, if the institution from which he proceeds has adopted a standard of qualifications as elevated as its own, and in practice honestly adheres to that standard, it is fitting that he should be received upon the faith of his testimonials. But if, on the contrary, he comes from an institution which judges a less amount of attainment to be sufficient, or which is accustomed, while it fulfils the requirement to the eye neglects it to the sense, (and such medical institutions there are,) it is not only reasonable, but absolutely necessary for the security of the public, and the character of the profession, that he should furnish further evidence of his attainments.

It is in this manner that the qualifications of candidates are attested by some of the best-established medical societies in this country; and although a little jealousy has sometimes been felt and expressed by some of the minor institutions, the system has been found on the whole, to secure pretty effectually the community from the inroad of ignorant pretenders, and the profession from open dissention, and in a great degree from private discord. There is probably no portion of the globe in which the medical profession exhibits so much harmony among its members, and enjoys so extensively the confidence of the community as in some parts of America. If such be the fact, and we feel quite confident that we are not mistaken, it is owing chiefly to the character and administration of our public medical institutions that it is so.

But to accomplish these objects, it is essential that the medical institutions themselves should be properly constituted. It is sufficiently obvious, from the very nature of the case, that in any community the medical profession are the proper judges of the degree of qualifications which that community demand in its physicians. But this power properly belongs to the profession as a whole, and not to any detached portion of it. The *whole* profession, therefore, acting either collectively, or by authorized delegation, should fix the terms of admission to their fraternity; and entrust the execution of their rules to men, selected by, and responsible to themselves. In this way alone do we conceive that the decisions of the examining tribunal will be sure to receive the sanction of the profession or the confidence of the public. And without these they are of little value. In these days, the power of mere law, or of exclusive privileges, does little to give efficacy to the judgment of a board of examiners, when that judgment is opposed to the sentiment of the more respectable part of the profession. This is a point of some importance, and

worthy of more consideration than it has received. We cannot now examine it fully, but must be content with remarking that the whole substantial value of the decision of any examining tribunal, depends upon the degree of confidence placed in that decision; and the confidence of the public at large, is measured almost exclusively by that of the profession. A tribunal which does not possess this confidence, may do much to embarrass and perplex the course of those whom it may wish to discountenance, and much to disturb the peace of the profession; but it cannot controul the conduct of individuals, nor secure the harmony of the whole.

In this particular our medical institutions differ most essentially from those of England. It is true, indeed, in our own country, that the greater part of our schools for medical education are not under the immediate supervision of the profession, and some of them do not recognise any *direct* influence from it. It is equally true, however, that the medical societies in each state, expressing as they do, the collective voice of the whole profession, have by their organization a controlling power over the education of candidates, which no medical school in our country could effectually resist. Happily collision is not likely to arise between the two classes of institutions, for the interests of both are pledged to maintain a high and healthful standard of professional attainments. But if any medical school were to become so unmindful of its duty, and true interests as to attempt essentially to lower the standard, it would find an effectual check in the medical societies by which it is surrounded.

How different all this is in England, is shown by the constant contention between the college of physicians, and many active and highly respectable members of the profession, and most emphatically by the case of Dr. Armstrong. We have already seen that the London college of physicians is neither made up of the whole body of educated physicians, nor of a delegation, nor a selection from them; but is a privileged body selected by an arbitrary rule from a limited portion, and this portion not likely from the nature of the case, to be made up of the best educated, or most able members of the profession. It needs no evidence to show that a body thus constituted can never possess the confidence of the profession as a whole. If such evidence were needful, the whole history of the college of physicians for more than a hundred years furnishes it most abundantly. This same history would furnish equal proof of our other position, that without the sustaining influence of the profession, the decisions of the college will not be conclusive with the public at large. But we confine ourselves to the case of Dr. Armstrong.

We have seen that Dr. Armstrong, a stranger in London, except so far as his publications had made him known, was examined before the censors of the college of physicians, and was rejected. Such a rejection from a tribunal properly constituted, would not assuredly have been final. It was quite otherwise with him in the present case. Whether indeed Dr. Armstrong renewed his application the following year, and was licensed, or whether he went through his subsequently prosperous life in despite of all the powers of the college of physicians for fine and imprisonment, Dr. Boott by a singular want of explicitness in his account of this transaction already quoted, has failed to inform us. In either case the rejection instead of retarding his professional advancement, evidently hastened it, by the strong interest it excited in his favour. Soon after it happened, Dr. Armstrong was elected as successor to the late distinguished Dr. Bateman, one of the physicians to the London Fever Hospital. The circumstances of his election, which seems to have had a very decisive influence upon his subsequent prospects are thus related:—

"During his residence in the north of England, Dr. Armstrong had practised extensively among the society of friends, and he owed to the recommendations of some of its members the distinguished favour which he met with from the board of trustees of the fever hospital. There was one gentlemen, I believe, of this religious persuasion, who, though personally unknown to Dr. Armstrong, particularly favoured his claims. His appointment as physician to the hospital was made known to him on his introduction to the trustees, he expressed his grateful sense of their kindness, but at the same time regretted he could not avail himself of it, as their laws required that their physician should be a fellow or licentiate of the college of physicians, and that he was not a member of that body. On their inquiring the cause, he told them that he had offered himself for examination as a licentiate, and been rejected; that no cause had been expressly assigned, but that the sufficient one undoubtedly was, the opinion of the board of examiners of his incompetency to practice his profession. On his announcing this fact he was desired to withdraw, and the gentleman above alluded to, in his absence, spoke of the estimation in which he had been held in the north of England, of the high reputation which he had obtained from his writings, and it was proposed that the by-law, which made it necessary for their physician to be a member of the college should be immediately suspended. This was assented to, and Dr. Armstrong entered at once upon the duties of the important office thus honourably conferred upon him," p. 31.

We do not believe there is a medical institution in this country, which possesses the confidence of the community around it so little, that it would be possible to procure a reversal of its decision in a case like this. And we regard this as evidence of the most incontrovertible kind, of the low estimation in which the London college of

physicians is held by many of the more enlightened and intelligent people of that metropolis.

From the time of his appointment to the Fever Hospital, Dr. Armstrong's practice increased rapidly, and he soon found himself firmly established in London. We need not therefore pursue his biography further in detail. The life of a professional man, after the obstacles to his first establishment are surmounted, like the tale of romance, when the impediments from the course of "true love" have vanished, furnishes little of striking incident to fill out a narrative. It was certainly highly creditable to Dr. Armstrong, that he owed much of his prosperity and celebrity to the favourable regard of his brethren in the profession. There was probably not a little of party feeling intermixed with the personal attachment. A man who had suffered so publicly, and triumphed so signally, was by the very nature of his situation pointed out as a leader in the opposition to oppressive "scholastic institutions."

If it be true, however, that the circumstances in which he was placed did much for his prosperity and reputation, it must not be forgotten, on the other hand, that his own character and conduct formed, in a great degree, those very circumstances, and carried him successfully through them.

But the principal cause of his early and rapid success in London seems to have been the charm of his personal character. His energy, and even enthusiasm, when roused, as he now was, to strenuous exertion, his clearness of mind, especially on subjects to which he had given peculiar attention, his amiable deportment and warmth of feeling won for him the respect and confidence of those members of the profession who came into contact with him, and the esteem and ardent affection of many friends.

"He owed his success in London," says Dr. B., "to two causes, for no one had ever fewer adventitious aids to success, and the one reflected as much honour upon his talents as the other did upon his disposition. Those members of the general profession who had once experienced the benefit of his counsel and assistance, could seldom be induced to recommend any other physician, so strongly impressed were they with the simplicity, the originality, and success of his views and practice; and those families who had once had an opportunity of feeling the effects of the gentleness and delicacy of his manner, could think of no other adviser. There are many persons in and out of the profession who will admit the truth of these remarks, and who will confess that the loss of this eminent man appeared to them irreparable. He had the faculty of communicating his ideas to others, in the most easy and intelligible manner, and from the fertile resources of his own mind, of throwing light upon the most ob-

scure and involved cases. Those difficulties which embarrassed common minds, seemed at once charmed away by the magic influence of his own; and his opinions were delivered with so much candour and perspicuity, that while others bowed before the superiority of his intelligence, they were instinctively impelled to place the fullest confidence in his skill and integrity, and to feel an irresistible affection for his character as the man blending with their admiration of his talents as the physician. His manners were simple almost to a fault, and were at first forbidding, from the absence of every thing like an attempt at effect; but no sooner did he enter upon the consideration of a case, than it was apparent he was completely absorbed by it. His seeming reserve at once gave way to a visible feeling of deep and tender interest in the welfare of his patient, who felt satisfied that he was in the hands of an amiable and sagacious man, to whom he might confidently entrust himself," p. 33.

If it should be thought there may be something of the ardour and partiality of friendship in the warmth of commendation in this and similar passages, it nevertheless scarcely the less faithfully exhibits the amiable traits of Dr. Armstrong's character. For those qualities of mind and heart must have been of no ordinary cast that should have excited so distinguished, so ardent, and so permanent a feeling of admiration and affection in such a man. Indeed this whole work may be regarded as a tribute to the high moral qualities, not less than to the intellectual attainments of Dr. Armstrong, and the author in setting them forth with such warmth of feeling, has unconsciously presented us with a most pleasing exhibition of his own character, while he has taken nothing from our confidence in the faithfulness of the picture he has drawn of his friend.

In the year 1821 Dr. Armstrong became a public teacher of medicine, in the Webb street school, established by himself in conjunction with Mr. Grainger. The celebrity which this school for several years enjoyed, must have arisen mainly from Dr. Armstrong's ability and popularity as a lecturer, especially after the death of Mr. Grainger, which happened in two or three years. Indeed the labour as well as the reputation of the school seems to have rested mainly upon him, for we find him soon after, besides his course on the Theory and Practice, giving also a course on the Materia Medica. And since his death, the school, we believe, has been abandoned.

Dr. Armstrong's enterprise was not diminished with his prosperity. He not only carried on his various lectures, and attended to his increased practice, but made several publications which our limits do not allow us to notice particularly. His ambition, stimulated by the course of distinction and fame which he saw opening before him, urged him to the utmost exertion of his powers. Unfortunately, however, both for his usefulness and for the perpetuity of his fame, his

energy was stimulated more to the projection and commencement of new works, than to the completion of those already begun. Much of this is doubtless to be attributed to the early period at which, in the midst of his activity and enterprise, all was arrested by disease and death, but more we think to the peculiar tendency of his character and early habits.

Dr. Boott remarks of the early education of Dr. Armstrong—

"However limited his opportunities of improvement had been, I cannot but consider that his education was eminently calculated to bring forth the original powers of his mind," p. 7.

To us, this whole matter appears far otherwise. True genius is not so bound down by the circumstances of education; while on the other hand, the efforts of the ablest minds are not unfrequently, for the want of a proper education, rendered abortive or unproductive. Such in our view was the case, to a great degree, with Dr. Armstrong; and that it has not proved so to a much greater extent, is owing, we believe, quite as much to the labours of his able and zealous friend, as to the character of his own productions. Whatever may have been the value of the several works published by himself, or the importance of some of the views, both practical and theoretical, which he either introduced or advocated, there is about them all, a want of maturity and thorough consideration of the whole subject treated, which we apprehend will prevent their sustaining a high rank as permanent standard works, and which will therefore deprive him of much of the lasting fame which he confidently anticipated.

Of the imperfections of his earlier publications, Dr. Armstrong was himself deeply sensible at a later period of his life, and "regretted that his life could not be prolonged to enable him to republish them in a more satisfactory form;" and so unwilling was he to rest his future reputation upon them, that he left it in charge to his friend to make known to the world the results of his more mature observations and reflections. His opinions on his favourite subject of fever, underwent some very important changes, subsequently to the publication, even of the latest editions of his several works on the different kinds of fever. Dr. Boott attributes these changes of opinion to more extended opportunities for observation; and he claims for his friend a no small meed of praise for his candour in being willing thus to change, when these opportunities were presented to him. But other men had observed before, if Dr. Armstrong had not; and a true philosophy would have taught him, to make use of the observations of others as well as his own. To imbibe the *opinions* of others without examination, or without sufficient evidence, may be, and

often is, a proof of imbecility. But to learn from the facts observed by others, argues any thing other than servility of mind. On the contrary, it is one of the truest marks of original, inventive genius, to distinguish between the observations and the theories of others, faithfully to apply their facts, and to receive or reject their speculations, according to the evidence which supports them; to range over the whole field of knowledge, and search out observed truths, however buried amid speculation and hypothesis.

The man who limits his knowledge to what he can himself see, necessarily limits himself to a corner. And this was the fault of Dr. Armstrong's mind. With him, seeing only was believing; and he would consent even to *see* with no eyes but his own. When he changes his views, it is not because he finds that those views are not supported by the phenomena of disease as observed on a large scale throughout the world—it is because what he sees in London is inconsistent with what he saw, or thought in Sunderland. London is a large place, doubtless, and the London Fever Hospital is an excellent institution, and affords a most favourable opportunity to observe disease. But the world is larger, and other men have seen fever, and described its phenomena, besides Dr. Armstrong.

The course which Dr. Armstrong took himself, in regard to his medical opinions, he taught his pupils to take.

"The question," he says, in his lecture on typhus, "whether typhus fever is contagious or is not contagious, cannot be decided by any reference to black-lettered books; but by a reference to facts, and facts alone, contemplated with the most perfect impartiality."

We are not to suppose that Dr. A. used language so feebly as to mean no more than that the question of contagion is a question of evidence, and not of theory merely. There is an obvious antithesis, such as we find in his whole life and character, between learning derived from books on the one hand, and personal observation on the other. This may be pleasant hearing to many a pupil to whom the "black-lettered book" is a sad eye-sore, while he pleases himself with the fancy that he is gaining experience, and learning how to treat disease merely by seeing it. This outcry against books always reminds us of a reply of a disciple of a late distinguished *rubbing* empirick, to a friend of ours, who had asked him, "where his master obtained his peculiar knowledge—from books?" "No, not from books," said he. "And why not?" "It is not there." "What! none of it," said our friend, "among so many books?" "No, none," said the disciple. "True," he added, "there was another reason; *he could not read them.*" We know of how little practical value is

mere learning, without personal observation. But we must also say, and we would fain sound it in the ears of every medical student, that no extent of observation or experience, without study, diligent study, will ever make either a sound philosopher, or a good physician.

Dr. Armstrong's course in London was, from the circumstances in which he was placed, a highly exciting one, and it was on the whole, brilliantly successful. But it was short. In a little more than ten years from his removal to London, the disease, which was to prove fatal, fixed upon him; and after another year of most painful struggle between the claims of professional duties and the advance of disease, he was carried off by consumption in December, 1829, in the forty-sixth year of his age. There is a moral lesson in all this, which will not fail to force itself upon our thoughts and feelings, even in the midst of professional discussion. If the life of men be all contained in this mortal part, then let it be occupied and absorbed in agitation and excitement. It is short and full of disappointment; but if it be all, it were wise to make the most of its pursuits and enjoyments. But if it be but the entrance to another, as lasting and as full of high capabilities, as this is evanescent and unsatisfying, then surely there are better objects of pursuit, and more elevated motives of action, than the attainments of scientific research, or the highest aim of professional ambition.

Much the greater part of this first volume, as is to be the whole of the second volume, is occupied with an examination and elucidation of Dr. Armstrong's opinions on the subject of fever. We have seen that this subject engaged his attention at an early period of his professional life; that his publications upon it first gave him celebrity, and encouraged him to pursue his fortunes in London; and that there his appointment to the Fever Hospital insured his success in that metropolis. We might have added, and perhaps in justice to him we ought to have done so, that his lectures on fever attracted a very large share of attention from professional men, as well as from pupils. To his own mind, his views of fever had all the charm of original discovery, and all the vividness and much of the clearness of established truth; and he seems to have had the power of imparting in a remarkable degree these impressions to his auditors.

It appears to have taken nothing either from his own or his hearer's confidence in the correctness of those views, that they underwent some very considerable changes in the course of his investigations. The modesty of the learner combined with the intelligence and confidence of the teacher, presents too interesting a specimen of can-

dour to allow the intrusion of very scrupulous doubts whether further learning may not still further change the view of what now seems sufficiently clear and established. To our minds, cooled by the intervention of a few years time, and the distance of a few thousand miles, the suggestion presents itself, that since the enlargement of his sphere of observation from Sunderland to London caused some important modifications of his opinions, a further extension of his view to the diseases of the world might possibly have produced changes of opinion even more considerable and important. Of this, however, neither he nor his pupils had any apprehensions. What he saw, or thought he saw, he saw vividly, and he described it with a clearness and reality which powerfully impressed the minds of his hearers.

Of all his friends no one appears to have entered more fully into his views of disease than Dr. Boott; and no one surely could have described them more perfectly or defended them more ably than he has done. Indeed, we greatly doubt if Dr. Armstrong had himself accomplished the revision of his opinions, whether he would have produced so satisfactory a work—whether he would have stated those opinions with so much clearness and precision, and supported them with so much research and ability, as has been done by the friend to whom in his dying moments the task was committed. The charge of perpetuating his fame could not have been placed in better keeping, whether we regard our author's affection for his deceased friend, his zeal for his reputation, his respect for his talents and character, his confidence in the truth of his opinions, or the ability with which he has executed his interesting and responsible trust.

For the soundness of the opinions themselves, ably elucidated as they are, we are not indeed prepared in all respects to answer. Fever in all its varieties is so complicated a disease, involving so great a variety of phenomena, and attended with so many changes of structure and function in the animal system, that we have little expectation of ever seeing the whole satisfactorily explained, by any one theory applicable to all its different forms. Almost no two systematic writers on fever will agree as to the characteristic features of the disease. Each includes just so much among the essential characters, as his theory most readily explains, and rejects as accidental and adventitious, whatever of the ever-varying phenomena, will not easily fall into his rank and file.

Dr. Armstrong's theory of fever is comprehensive and simple; and it wants but a full conviction of its truth to regard it with admiration.

"One of the most striking characters of his mind," says Dr. Boott, "was a

power of generalization, which enabled him to grasp at once a complicated subject, and to view it from an intellectual elevation unattainable by men of ordinary powers."

But from this elevation might he not overlook some peculiarity in the phenomena or their causes, which must necessarily arise in the diseases of the living system in all the varieties of climate and condition in which the human race are found? In the natural sciences a power of generalization has raised some of the masters of science to the highest distinction; and we do not wonder that a man who has so successfully cultivated those sciences, as has our author, should have carried with him into the medical profession a peculiar respect for such a power. But in the investigation of disease, there are so many circumstances of climate and season, and of the condition and constitution of the patient, to give a peculiarity, and a sort of individuality to each particular case, that an extended series of cases can hardly be *generalized* into any system, without taking for granted as a matter of inference, many things which should only be received on the fullest observation.

A very large proportion of diseases have certain points of resemblance; yet these resemblances furnish little evidence of a uniformity of character, and afford no indication that they require similar treatment. The several varieties of fever have perhaps as much that is common in their history and symptoms, as there is between the whole race of quadrupeds in natural history. And he who would thence derive for them a common origin and prescribe a common treatment, would be as skilful a physician as he would be a naturalist, who should assign similar habits and powers to the animals that run on four legs. Were it possible to go further, and as in natural history the habits of animals may be traced to their intimate organization, to trace the phenomena of diseases back to known causes, then indeed we might generalize in medicine as well as in the other sciences. But here, we contend, the analogy ceases. From phenomena observed only in reference to comparatively a few cases, we are obliged to infer both cause and effect in reference to a great many others; and others too, in regard to which there may often be circumstances operating of which we have no knowledge.

We do not mean to say that Dr. Armstrong's generalization is altogether so sweeping as that we have just supposed. Yet when we see how easily he disposes of all the various forms of fever, including many diseases in which the febrile character has generally been regarded as subordinate, it seems to us truly that his system runs somewhat upon all fours.

Our limits will not permit us to give more than a very brief summary of Dr. Boott's able and clear account of Dr. Armstrong's views of fever, those chiefly which he entertained at the close of his life. He divided fever into two great classes, common and specific, according as the cause which produces it is either *common* or *specific.*

"The common causes are those ordinary agents to which mankind in every situation and under all circumstances are exposed. These are classed according to their primary effects; their ultimate effects upon the body when these amount to a powerful impression, disturbing the functions and affecting the structure, constituting what he denominated common fever; which not only included the inflammatory affections comprised in the phlegmasiæ of Dr. Cullen, but diseases of a similar nature, scattered in different parts of his artifical arrangement. It also comprised other disorders not inflammatory, the symptoms and pathology of which, by a legitimate generalization, were shown to depend upon the different stages or degrees of action arising from the exciting cause of fever," p. 115.

The common causes he divided into three kinds—common depressants, those common agents which enfeeble the energy of the vital powers, and diminish the animal heat, the action of the heart, and of the muscular system, such as low and variable temperature, severe accidents, or surgical operations, &c. Common stimulants, which affect the whole body, augmenting the energy of the vital powers, increasing the animal heat, &c., such as high temperature, great bodily exertion, or powerful exciting emotions of mind, &c.; common irritants, which primarily affect particular parts of the body, increasing their sensibility, but ultimately operate through the local impression upon the whole system, acting as depressants or stimulants according to the condition of the patient or other circumstances. These are fermented liquors, indigested food, &c. The fever produced by the first of these causes has three stages, that of oppression, excitement, and collapse; that by the second cause, has only the two last stages of excitement and collapse.

"The specific causes of fever are those occasional agents to which mankind are not universally or equally exposed. They operate generally as depressants, and differ from common causes in invariably giving rise to fixed and peculiar, as well as occasionally to variable and common effects; the particular cause itself always operating on particular structures, probably through the blood, and thus giving rise to a fever of a peculiar or specific kind." "These causes are certain states of the atmosphere, specific contagions, and poisons," p. 117.

Each of these causes gives rise to fever under three forms, congestive, simple, and inflammatory; so that we have, as embracing all the varieties of fever, common congestive fever, common simple fe-

ver, and common inflammatory fever; and specific congestive fever, specific simple fever, and specific inflammatory fever.

Neither our limits nor our inclination suffer us to attempt an extended examination of this view of fever. We have recently gone over much of the same ground,* and we have not the heart so soon to retrace our steps. Besides, we are not very confident that the utility of these discussions are an adequate compensation for the labour they require, unless it be by the warning they give, by showing how easily the best powers of observation are led astray when once the love of theorizing has taken possession of the mind.

The mere statement of this view of fever, shows how entirely hypothetical it is in all its parts: and yet Dr. Armstrong seems to have regarded it all as a simple deduction from his own observations; and our author so far partakes of the same impression that he no where calls it even a theory, but speaks of it as a description of what takes place in the production and course of the disease. The cause of disease is often unknown, or at best is known only by a remote influence; and its mode of action is still less understood. By making these the basis of the whole system, instead of being guided by the phenomena of the disease, diseases are brought together which have little affinity, either in their symptoms, or the treatment they require, while others are separated which cannot be distinguished by any thing which occurs in the course of the disease itself. Thus, intermittent fever, remittent fever, including yellow fever and the plague, and typhus, are one and the same disease, differing only in degree; while yellow fever is regarded as three distinct diseases, which almost all the writers on that disease have confounded together, and two of which it is conceded, one common fever, the other specific, cannot be distinguished by their symptoms, and require no essential difference of treatment.

"That the different forms of typhus," says our author, still giving Dr. Armstrong's view of fever, "are merely degrees of one and the same disease, appears by their passing, in some cases, from the milder to the severe modifications, or re-passing from the severer to the milder; thus, intermittent fever sometimes becomes remittent, and this continued; or the continued becomes remittent, and this intermittent."

But what if it should turn out that whole districts of country are subject to one form of fever, while for a long series of years the others are never found there? This is precisely true in New England. Nearly the whole of New England is perfectly free from intermittent

* See Review of Smith and Tweedie on Fever.

fever, excepting the few cases of those who have been exposed to its cause elsewhere, and has been so for a long period of years. In the early settlement of the country, this portion of America suffered as other new countries almost always have done from intermittent and remittent fever, as well as from other diseases; and at later periods, the overflowing of a meadow by the erection of a dam, or some similar operation, has occasionally given rise to it within a very limited space. But with the exception of cases of this sort, in which the disease has always disappeared whenever the local cause has been removed, we are not aware that a case of intermittent fever has originated in New England for many, probably more than a hundred, years. Typhus fever, on the contrary, or, to conform to the language of Dr. Armstrong, continued typhus, is to be found in every part of New England almost every year. It rarely becomes epidemic; but sporadic cases occur annually, both in the towns and throughout the country.

The explanation of the pathological distinction between these different forms of fever, is still more remarkable.

"The distinguishing characteristic symptoms of each merely depend on a difference in the degree of the pathological effects produced. In the mildest form there is no apparent inflammation; in the severer form there is inflammation; and in the worst form this inflammation is so much more extensive or intense, as to prevent any intermission or remission of the symptoms," p. 174.

Again—

"The first [intermittent] is a simple fever, or one of simple excitement; and the two last [remittent and continued fever] are inflammatory. The inflammation in both attacks the same structures; but in the remittent form it is not so influential as to prevent more or less a morning remission of the symptoms, while in the continued form it is so urgent as to make the fever assume a continued type," p. 174.

We know not upon what evidence it is assumed that intermittent fever is unaccompanied by inflammation, nor are we told what is the nature of those visceral enlargements which so often accompany this form of fever as to be familiarly denominated ague-cake. Neither are we presented with the evidence that inflammation always attends remittent or continued fever. It may perhaps prove nothing more than our want of sagacity to detect inflammation, to say that we have seen cases of typhus in which we were unable to discover it; but we may say that cases are recorded by able and acute pathologists in which no symptoms of inflammation were observed during life, and no marks of it could be found after death.

But we gladly turn from this subject to meet our author on the fair

field of actual observation: and here we are so well pleased with his labours that we could fain have wished he had never been induced to leave it even to follow with such eminent ability his distinguished friend in his speculations.

Dr. Armstrong's opinions in regard to the cause of typhus underwent an entire change in the course of his life. At the time of the publication of his volume on the disease, he regarded contagion as the sole cause of the disease. Afterwards he doubted, and at the last, as we have seen, he considered it as interchangeable with intermittent and remittent fever, and like them produced exclusively by malaria. Dr. Boott has enlarged upon this last opinion, and gone into an able and extended examination of various epidemics in reference to the question of their origin or their mode of propagation. This examination occupies the largest, and in our view, much the most valuable part of the volume before us; although he has so far only examined the fevers of this country. In another volume he promises to subject to a similar scrutiny the fevers of Europe from the time of Sydenham.

In his examination of the fevers of America, although Dr. Boott considers them, in some measure, in reference to Dr. Armstrong's peculiar views of fever in general, yet we do not perceive that those views deter him at all from a faithful consideration of their true character as exhibited in the best descriptions of them to which he had access; for example, he follows Dr. A. in regarding all our fevers as modifications, or different forms, of typhus; but when he inquires into their character, he investigates them as so many independent diseases, with very little reference to their supposed relation to typhus. He has given us therefore an able essay upon the origin of several of the most important epidemic fevers of this country; in which he brings together abundant evidence of their non-contagious character. The discussion of this subject has indeed less of interest and novelty attached to it in this country than it appears to have in England; because it has now become so fully settled that few among our physicians we believe have any doubt in regard to it. Still this volume will be found to possess a high degree of value to American physicians. For we know not where else they will be able to find so clear and satisfactory a view, in so condensed a form, of the proof of the non-contagious character of the diseases of which it treats.

It is curious to see how little Dr. Armstrong, in the change of his opinions on the subject of contagion, acknowledges any influence upon his own mind of the opinions or observations of others; if he was indeed really aware that such observations existed. We have seen that when he published his volume on typhus, he fully believed in its

contagious character. This opinion he still held when he removed to London in 1818. In his published lecture on typhus, he says—

"It is a singular circumstance, that when I first settled in London the current opinion among the profession was, that typhus fever originated *solely* in human contagion; and it is remarkable that it should have been reserved for me to *discover* that mistake in this metropolis," p. 163.

In 1822 Dr. B. tells us his opinions were wavering.

"In 1825, and especially towards the close of his life, the doubts which he had entertained on the subject were almost entirely removed; and he confidently anticipated the time when the same change which had occurred throughout North America with respect to the non-contagious nature of the yellow fever, would take place in Europe with respect to typhus," p. 160.

Again Dr. B. tells us, that—

"Dr. Armstrong was convinced that malaria was at least their primitive remote cause, and that the typhus of Great Britain could not be considered essentially a contagious disease; an opinion which was so much opposed to the general sentiments of the profession in this country, that in the zeal of his own convictions, he speaks of the proofs of its origin in malaria as a discovery. But other observers," Dr. B. very properly adds, "had long before come to the same conclusion, though no one had attempted to establish them on such definite grounds," p. 299.

We easily excuse the concluding salvo to the manes of so dear a friend. But had Dr. Armstrong lived in America, he could not have found it so easy to persuade himself that he had found a new thing in discovering proofs of the non-contagious character of typhus fever; especially using the term in his "comprehensive signification" as embracing a great variety of forms of fever. In regard to true typhus, in the restricted, and, as we think, the proper sense of the term, he would have found few physicians, so far as our observation extends, who would have agreed with the profession in London, as he represents it, in believing that it originates "*solely* in human contagion;" although he might find those who suspect or believe the existence of some modified contagious influence, coöperating under certain circumstances with other causes in the propagation of the disease. But in respect to most of the fevers which Dr. Armstrong includes under the designation of typhus, the question has long been regarded by a large proportion of the profession in this country as so fully settled, that a further discussion of it is less called for here, as we have already intimated, for the sake of giving more light upon it, than as furnishing a good summary of the evidence which has determined it.

Considering how large a part of our medical literature is received from Europe, it is not a little remarkable that the opinions of physi-

cians on this subject here should be so much in advance of those of the old world. Indeed, we hardly know which is the most surprising, that the pupil should thus have outstripped the master; or that, on the other hand, the physicians of Europe should be so slow at receiving any opinion or established observations from the new world. It were not to be expected that the great body of English, Scotch, and Irish physicians, to whom, from the community of language, this remark chiefly applies, should know much of the state of medical opinions at such a distance from them, or should condescend to notice, if they had heard of, what comes from so youthful a country. But from the public medical journals of Great Britain, and especially from the public teachers of medicine, it might have been hoped that they would look out for true knowledge wheresoever it is to be found.

That Dr. Boott is not liable to the imputation of neglecting American medical literature, is sufficiently obvious from the very nature of the publication before us. With him the question of the contagion f fever is to be settled by a wider range of observation than falls to the lot of any single individual, however extensive his opportunities may be; and he naturally turns his eyes first to this country, to which he gives the credit of having made greater advances towards settling it than have been made elsewhere. If his volume shall have the effect o furnish to English physicians a just estimate of the state of medical science in this country, he will have rendered an important service to the profession in his own country, while American physicians may well acknowledge their obligations to him for such a service.

Having gone through with his elucidation of Dr. Armstrong's views of the nature and the symptoms and treatment of fever, Dr. Boott goes on to a consideration of the remote cause of fever. Here he begins with a statement and defence of Dr. Armstrong's opinion founded upon the assumption, which we have already noticed, that typhus has a common origin, and common character with intermittent and remittent fever. But he soon breaks loose from the trammels of supporting a system, and considers the question independently as the evidence is presented by the history and phenomena of each disease.

He begins with yellow fever; under which name Dr. A. believed that three different affections had been included, viz. acute hepatitis; the inflammatory endemic of the West Indies, a *common* fever arising from heat acting on unseasoned constitutions; and the epidemic bilious remittent, the offspring of marsh effluvium, and therefore a *specific* fever. Having considered somewhat at length the character of the two last varieties of yellow fever, Dr. B. proceeds to the inquiry

whether there is a fourth variety to be found in the Boulam fever, so earnestly contended for by Dr. Chisholm, and the other advocates for the contagion of this disease. The supposed origin of this fever he examines in detail, and fully establishes the conclusion that there is no ground for regarding it as a distinct disease. Our limits will not permit, neither is it necessary that we should follow our author through his examination of the evidence in support of this result, exhibited during the prevalence of yellow fever at different times in Philadelphia, Wilmington, Port of Spain, Baltimore, and other places. Suffice it to say, that with a sufficiency of detail, he has given a condensed, impartial, and to our minds a conclusive view of the subject.

This view is greatly strengthened by the survey which he next takes of the fevers that have appeared at different times in various parts of the United States. The leading object of this survey is to show the affinity which our author, in common with his distinguished friend, believes to exist between intermittent and remittent fever, and typhus.

"Dr. Bancroft," he says, "has asserted that typhus is not to be found in tropical countries; and no one will dispute the assertion, if he means a fever characterized by all the symptoms of the typhus of Great Britain; but that a specific continued fever actually exists in either India, the product of malaria, differing in no other essential respect from our common endemic than might be expected from the difference of climate, is proved by the observations of several authors. A similar fever is also frequently mentioned in America, even in places where yellow fever exists; but its occurrence is most common in the midland and northern states, north of lat. 39° or 40°, where the temperature is on the average too low to give full development to yellow fever, at least in its epidemic form," p. 301.

We have on a former occasion* remarked somewhat at length on the unsatisfactory nature of the inference, that even typhus is every where the same disease, because it has in many respects similar habits, and obeys similar laws; and we should now find it easy to exhibit what seem to us insuperable difficulties in the way of regarding the several fevers here considered, as identical in any proper sense, or in any such sense as will be useful, or even harmless either in theory or practice. But our limits forbid a prolonged discussion, and we have little inclination to contend on mere points of opinion, where the facts are so faithfully exhibited. As a matter of analogy, though in our view not as decisive authority, all that is here said is fairly brought into the argument. Independently of all considerations of theory, it is a highly interesting and valuable survey.

* Review of Smith and Tweedie on Fever.

Beginning with the southern states, Dr. B. first brings together accounts of a great number of fevers as they prevailed at different times in those latitudes in which yellow fever most frequently prevails. These fevers were obviously endemic in their origin, and varied in the different cases, from a tolerably mild intermittent to malignant remittent, and continued fever; and in many instances the different forms interchanged, as the prevalence of the disease increased or declined. We cannot accompany our author through this survey, nor examine the conclusions to which he arrives. But our national vanity, (it may be,) will not suffer us to omit the following flattering testimony to the observations of American physicians.

"I must again repeat, that I know of no body of facts more instructive in the whole compass of medical literature, than those contained in the reports of medical men scattered through the states of North America; men, who, however imperfect their early education might have been, as compared with those who had also the advantages of the elaborate instruction of the European schools; thrown as they necessarily were upon their own resources, in a country fertile in all the varieties of fever, and obliged to discharge *all* the duties of the profession, may be said ultimately to have been taught in the great school of nature, where the observation of her phenomena led to the best practical information, unfettered by those systems and creeds which hold such influence over the minds of men in a narrower field of observation, and limited, as in this country, to the practice of one particular branch of the profession. A comparison of the medical literature of America from the time that Rush's views began to be widely diffused, with that of this country up to the publication of Mills' work on the efficacy of blood-letting in fever, would, I am confident, reflect honour on America," p. 391.

"Rush had thirty years before inculcated what are considered at the present day sounder views of disease; and his influence in America was equal to that of the great Edinburgh professor in this country. 'We remember, (says a well-known journalist, in 1809,) the horror and incredulity that was excited some years ago by the evacuating system of Dr. Rush, and of some West India practitioners in yellow fever; and how a celebrated German professor of the stimulating school shrugged up his shoulders, and prognosticated the certain death of a patient in our infirmary labouring under typhus, when he heard his physician prescribe some necessary evacuations. But the practice of Dr. Rush was successful, and our condemned patient speedily recovered.*'" p. 393.

The survey which our author next takes of the fevers of the "midland" states, occupies somewhat more than a hundred pages of his volume. It is an able summary of the accounts of yellow fever at Wilmington, and at Philadelphia; the latter chiefly from Dr. Rush. Dr. Rush's own most interesting account of this portion of our medical history, is too familiarly known to our readers to require from us

* Edinburgh Medical and Surgical Journal, Vol. 85.

any notice of it. Dr. B. then turns to the fevers of the city and state of New York.

"Among which," he says, "we shall find examples of yellow and typhus fevers; the last appearing, as at Wilmington, in Delaware, in those years when the state of the atmosphere was not such as to give rise to the former modification of fever."

"I have already remarked," he adds, "that if malaria be the primary origin of typhus, as well as of the common remittent and yellow fever, and that if a continuance of high heat be essential to the latter, we might expect, in a country of such vast extent as North America, to find, as we examined the character of fever progressively from the southern to the northern portions of the continent, that yellow fever, which is annually endemic at Vera Cruz, and New Orleans, would be represented by some other form in those places where the mean temperature from latitude would be too low to give that irritability to the animal organs, or that concentration and intensity to malaria, which are considered essential to the full development of it. It will be seen that this change of type actually occurs in different years; and that New York, which is situated in latitude 40° 42′ N., is the last place in this progressive inquiry from south to north in which we meet with any frequent examples of severe and extensive epidemics of yellow fever," p. 513.

The volume closes with a similar but concise view of the fevers of the eastern states. In this we find little notice of the typhus fever, strictly so called, which occurs to a greater or less extent almost every year throughout New England. This we believe is not to be attributed to design or inattention on the part of the author, so much as to a want of the necessary authorities. It would have interested us greatly to have seen a faithful and able comparison, such as he would have given us, of the typhus of New England with that of Great Britain. But we freely confess we should ourselves have been somewhat at a loss to refer him to the materials on our part, necessary for such a comparison; and we cannot therefore complain that it is not given us. The truth is, typhus in New England rarely occurs, except in sporadic cases, and attracts so little of general attention, that very little seems to have been written respecting it. No one physician sees so much of it, as to feel authorized to write about it, in the expectation of instructing his neighbours, and all, or nearly all, see enough to lead them to forget that it may be an object of curiosity and interest to the medical public.

In concluding our notice of this work, we are not without apprehensions that we have not sufficiently expressed our high sense of its value and interest. Although we have not been able to enter into all the feelings of admiration and respect towards the public character and attainments of Dr. Armstrong, with which an ardent friendship

had inspired the author, we would feign hope that we have done justice to the excellence of those feelings, and to the personal worth which gave rise to them. And we have wholly failed in giving expression to our opinions, if we have not made it appear that his account of the fevers of this country is a work for which every American physician may well feel grateful to him.

We look for the appearance of the second volume with eagerness. The promised account of European fevers, if written with equal faithfulness and ability, will furnish us with a highly interesting and valuable piece of medical history. We are glad to learn that as soon as that volume is received, the whole work will be immediately issued from the press in this country. E. H.

Art. XVI. *Nouveau Système de Chimie Organique, fondé sur des methodes nouvelles d'Observation*, par F. V. Raspail. Accompagné de douze planches gravées, dont six coloriées. Paris, 1833, pp. 576. 8vo.

THE close and intimate connexion existing between the sciences and their dependence on each other for an explanation of the phenomena peculiar to each, becomes more and more evident, as we advance in knowledge. Even chemistry, whose limits were formerly considered as perfectly defined, has within a few years assumed an entirely new aspect, and her votaries, instead of relying exclusively on crucibles and reägents as the only legitimate instruments of research, have called to their aid the apparatus and laws of other departments of learning, and have thus been enabled to extend the domain of their art in a wonderful and unexpected manner.

This union of means has been strikingly successful in our researches into the ultimate composition of bodies, and has afforded results whose truths can be verified by the strictest rules of mathematical calculation. By the theory of atoms and that of definite proportions, we are enabled to ascertain with certainty the primary constituents of inorganic substances, and the rules which govern and modify their combinations, so as to be able in a vast number of instances to imitate nature, by forming these combinations at will. But when we attempt to apply these rules to the explanation of the phenomena of organized beings, we find our resources fail, and are obliged to confess the futility of our means. For although animal and vegetable substances are composed of a very small number of

simple bodies, these are combined in so great a variety of forms, and their union is regulated by a power or powers so widely different from those which act on inorganic matter, that the usual means of explanation totally fail. In inorganic substances, all the phenomena may be referred to action of external agents, the operation of purely physical forces, and the simple and well-ascertained laws of affinity. In organic substances, on the contrary, we are compelled to acknowledge the influence of something, which whilst it regulates and controuls all the processes and phenomena that occur, is at the same time only known to us by its results. It is not therefore surprising that our knowledge of the ultimate structure of organic substances should be so imperfect, and more especially, when the modes in which all investigations respecting them have been conducted, are so defective. These methods have universally consisted in subjecting the substances alluded to, to trials which destroyed their distinctive character, and reduced them to the rank of inert bodies, a plan of proceeding which has necessarily resulted in an infinity of errors and the creation of a multitude of artificial difficulties.

The author of the work now before us appears to have been fully impressed with the uselessness of attempting to investigate the mysterious operations of nature by following the beaten track of mere chemical analysis, and has taken a far wider field of observation, by invoking the assistance of all the demonstrative sciences. His plan is thus stated:—

"Nature having deposited certain substances in certain organs, I shall demand of anatomy the means of recognising these organs, and as soon as I shall have learned to distinguish them in all their varieties of form, I shall call on chemistry to aid me with her processes and reägents. If these organs are too small to be properly studied with the naked eye, I shall invoke the assistance of the microscope. Optics will teach me to follow the course of luminous rays, and enable me to appreciate the effects of reflected or refracted light, and in fact I shall transport my chemical laboratory to the object-glass of my microscope."

This is in truth the only method from which we are to expect advantageous results, and although its full development will demand the most assiduous attention and the lapse of many years, no step that is gained will have to be retraced, and the labours of each successive inquirer will not be spent in overturning those of his predecessors, as is too often the case under the present defective systems of observation, which however plausible they may appear, have the radical defect of leading only to the study of the isolated properties of a substance, and can never enable us to judge of them as they are combined and distributed by the hand of nature.

M. Raspail has been known to the scientific world for a few years only, as his first publication was in 1825; since which time, however, no writer has given evidence of greater zeal or more untiring industry in various departments of the natural sciences; for it is not as a chemist alone that M. Raspail is advantageously known—his botanical acquirements entitle him to a high rank, as is evinced in his essay on a general classification of the gramineæ in the *Annales des Sciences Naturelles*, (t. V.) and his numerous botanical observations in the *Bulletin des Sciences et de l'Industrie*. The present work is founded on the numerous memoirs he has already published, and may therefore rather be considered as a condensation and arrangement of former materials than as matter entirely new: we mention this, as in any questions of priority that may be discussed, we shall consider the date of the original memoir, in preference to that of the present work.

But whilst thus allowing the fullest credit to M. Raspail, and in appreciating his labours as of the greatest benefit to science, we cannot avoid protesting in the strongest terms against the angry spirit which pervades the present work, for however he may conceive himself neglected or oppressed, he should have recollected that personal abuse and political accusations against his competitors in the field of science are sadly out of place in a work like the present, and we are even tempted to believe from his own confessions, that he owes many of the evils of which he complains to the unsparing manner in which he has attacked others. This observation is not applicable to our author alone, and we are glad of an opportunity of making a few observations upon it. The squabbles and petty disputes of the learned have done more to degrade science in the eyes of the ignorant than any thing else, and from their frequency and acrimony of late years, many injurious consequences have arisen, which it will take years of concord to remedy. In the medical profession they are still more productive of evil, and if persisted in, must eventually destroy that respect for it so essential to its usefulness.

There is one other point to object to in the present publication, and unfortunately it holds good with almost all the other writings of our author that we have met with; this is his silence respecting the labours and discoveries of those engaged in the same pursuits; they are seldom or ever alluded to except in terms of reprehension, without any allowance being made for the possibility of error on the part of M. Raspail himself. In fact, a student who had not an opportunity of following the progress of chemistry and vegetable phy-

siology, would be very apt, from a perusal of the present work, to imbibe the idea that the whole merit of the discovery of the facts detailed in it was attributable to the author alone, and that all others who have treated on similar subjects, have only involved them in error and obscurity.

M. Raspail commences with a long but important introduction, which requires a more extended notice than is generally awarded to such preliminary matter.

"This new mode of observation," says he, "applied to the study of organized bodies, is based on a certain number of generalities, and requires for its exposition a certain number of operations, which I shall proceed to explain, and shall afterwards devote separate chapters to the method of operating on a small scale, and that of proving the truth of the results obtained by investigations on a more extended one, with the theory which appears to me most naturally to arise from the alliance of these two modes; and finally I will give the classification adopted."

Our limits will, however, prevent our entering on his account of the apparatus made use of, and we must refer such of our readers as wish to pursue similar researches to the work itself, which gives some admirable rules for the use of the microscope, and describes a very simple but effective mode of carrying on chemical operations within the sphere of action of that instrument. M. Raspail very properly is not content with these minute processes, but repeats them on a larger scale with the aid of the usual chemical instruments and reagents, and thus is enabled to verify or correct one series of experiments by another conducted in a different manner. To use his own words—

"The first rule, or rather the fundamental principle of this method, is in the study of a substance, to interrogate all the laws under whose influence this substance is developed and exists."

To accomplish such a plan, it is evident that the observer must not rely on the resources of one science alone, but must call to his aid all the lights afforded by others which have any bearing on the subject of his investigations.

M. Raspail's exposition of the theory on which all his work is based, requires a more extended notice, and we shall attempt to give an abstract of it here in as few words as possible, as we shall have occasion to refer to its details more at length in the progress of our remarks. He totally and very justly denies that the atomic theory which has shed so much light on the constitution of inorganic bodies is applicable to those possessed of vitality, for although the organic molecule is

the result of a chemical combination of known inorganic elements, they are combined in such a manner, as by this very combination to give rise to a new class of phenomena wholly differing from those of inorganic bodies, we must therefore refer to the very organization of these bodies for an explanation of these phenomena. This organic molecule in its simplest form is considered by M. Raspail as an imperforate vesicle, endowed with the faculty of inspiring gaseous and liquid substances, and of expiring again such of their decomposed elements as it could not assimilate; these vesicles, he thinks, are themselves formed of an aggregation of smaller ones performing the same functions, and that we may suppose them to be composed of water, carbon and a base, which crystallize in the vesicular form, and become endowed with properties widely different from those appertaining to any other combination of inorganic substances, being under the influence of a different law, that of vitality.

The author does not attempt to define the character or nature of this governing principle of organization, as it is only appreciable by its phenomena. He is of opinion, nevertheless, that all the effects of the organization and formation of organs are ultimately referrible to the property with which the organic vesicle is endowed, of inspiring gases and liquids, of condensing the former, of assimilating the products by attraction, and of rejecting or expiring by repulsion its unassimilated contents. This double function, attributed by M. Raspail to the organic vesicle, is identical in its results with the endosmose and exosmose of Dutrochet, which, however, our author asserts, are nothing more than the result of imbibition: without entering into a discussion of this interesting subject, on which some highly interesting memoirs have already been published in this journal, by Drs. Togno, Faust, Valk, and more especially, by Dr. J. K. Mitchell, we may be permitted to remark, that the difference between the inspiration and expiration of M. Raspail, and the endosmose and exosmose of Dutrochet, is in reality only in the terms used, the deductions of each author being nearly similar, more especially as the former writer states that the power of the vesicles to thus inspire and expire gases and fluids may depend on electricity, which is the very agent assumed, incorrectly, however, by Dutrochet as producing endosmose and exosmose in living structures.

M. Raspail next proceeds to develop his system, which he avers is not founded on a previously conceived theory, but has been the natural result of the investigations which form the basis of his work. This system, if we understand his explanation, of which we are by no

means certain, may be thus explained. The object of all organic reactions being the development of organic tissues, he commences by the study of those organic and compound bodies which chemists heretofore considered as simple substances. But as these substances only become organic by insensible gradations, and not by instantaneous combination, as takes place in the formation of inorganic bodies, we may conceive of an epoch when they only had a tendency of organization. In this state he terms them organizing *(organisitrices)* bodies. These, as before mentioned, are the result of the elaboration to which oxygen, hydrogen, and carbon have been subjected in the organic vesicle, for he does not think that azote plays any part, except in sometimes combining with hydrogen, thus forming ammonia, and then entering as a base into certain tissues. The three other gases, however, under the influence of the vesicle, gradually become elaborated in such a manner, as to at last assume all the characters of organizing elements of the vesicle. He terms them therefore, organizating *(organisantes)* substances.

All other bodies he classes under the head of *organic* substances. These may be considered, says he—

"As natural and artificial products of the disorganization of tissues, or of a deviation of the organizating combination. These latter are nothing more than substances which have been excreted or thrown off as useless. They serve to saturate the bases, to prepare double decompositions, and in this way to assist in the combination of earthy bases, and organizing substances. Others again are mere errors of analysis, whose true nature and uses it remains to point out."

It will be seen from the preceding analysis of M. Raspail's system, that he adopts the now generally-received opinion, that the ultimate structure of all organic structures is vesicular; we say adopts, for although no other conclusion can be drawn from his text, than that he has deduced this fact from his own experiments alone, it is by no means a novel one, as it is noticed by Haller, and was most ably and satisfactorily developed by Milne Edwards, before the appearance of any memoir of M. Raspail's on the subject; nor can we perceive that the latter has thrown any additional light on the subject: the mystery of the conversion of inorganic principles into organic structure is still as far from being solved as before, for it is still referred to the agency of a certain unknown power, of whose essence we are as perfectly ignorant as ever, and which will always continue an enigma to us. Researches on this point, nevertheless, like those of the alchemists for the universal solvent, have always been attended with beneficial results, by the discovery of some new and unex-

pected property or combination of matter, however egregiously they have failed in the development of the great arcanum. That electricity may hereafter be found to be the great and pervading agent of mobility in the ultimate structure, we are willing to admit, but this will not remove the veil in the slightest degree, nor explain in what manner the ultimate particles of matter becomes fitted to receive its influence.

We shall pass over M. Raspail's first division on organized vegetable substances, as it would extend this article beyond all reasonable limits to attempt an analysis of his valuable observations on these bodies, and shall confine ourselves to a notice of such parts of his work as have a more practical bearing on animal physiology; at the same time, we cannot thus pass over this portion of his labours without expressing our accordance with most of his views. It is true, there are many points on which he dwells at some length in support of his peculiar views, where his enthusiasm and desire of generalization has led him too far, but taken as a whole, it is by far the most satisfactory account of the ultimate structure of vegetable bodies that has been presented to the world.

The second division of his work includes organized animal substances, and presents some new views of so highly interesting a character, as to induce us to insert them in a condensed form.

In treating of the adipose tissue, the author states that the analogy which exists between the adipose glands in animals, and the fecula in vegetables, must strike every observer. As in fecula, each adipose granule is composed of an integument and an included substance, and both serve for the nutrition of the organs of development, and both are constituted in the same manner. Thus, if a fragment of fat be examined, it will be seen that it is composed of an external vesicle having firm membranous parietes, enveloping small masses, which are readily separable from each other, and each invested with a vesicular membrane; this formation may be further traced in like manner and with the same results, until the vesicles become too small to admit of accurate observation. Each of these masses adheres by some part of its surface to the internal face of the vesicle in which it is contained, by a *hilum*. All these vesicles, and more especially the largest and most external, are covered with a net-work of vessels, which increase in calibre as they approach the hilum, where they are inserted into one of the vessels of the larger vesicle which includes them.

The observations of M. Raspail on the membranous substance of animal organs, show that those membranes which are considered by anatomists as the simplest, are in fact, complicated tissues, evidently

composed of several distinct layers. Thus, the epidermis is formed of a collection of vesicles deprived of their contents, and closely applied together. The truly simple animal membrane is the parietes of a vesicle; in this state of simplicity it is so transparent that it is only perceptible by the plaits or folds it forms on being moved; if on the contrary it were a compound membrane, the rays of light would be reflected. On this ground M. Raspail disputes the correctness of the observations of Home, Bauer, Prevost and Edwards, and we think that he has gone far to show that the pretended globules seen and figured by them, were merely optical illusions, produced by the play of light on the different folds of the membrane. As regards the intimate structure of the muscular tissue, our author considers that when this is in its simplest state, it consists of a bundle of cylinders intimately agglutinated together, and disposed in a very loose spiral form round the ideal axis of the group. These tubes are filled with a substance which is not wholly miscible with water, and they may be considered as elongated vesicles, which are united at each end to other vesicles of the same character.

M. Raspail denies *in toto* the explanation given by Prevost and Dumas of the mechanism of muscular contraction, that they contract in a zig-zag form, thus describing angles, the summit of each of which is furnished with a nervous fibre. In the first place, he states that it is impossible to distinguish, by the best microscope, the ultimate muscular fibre from the small nervous fibrillæ, and in the second place that this form is necessarily the result of the mode in which these gentlemen pursued their experiments, and is produced by the adhesion of the muscular fibre to the glass on which it is placed. His own idea, grounded on numerous observations, is, that the contraction of the fibre in length is always occasioned by its extension in breadth, under the influence of the vital principle.

M. Raspail next treats of the nervous system. This he considers as a central mass, giving off branches which are divided into an infinity of bifurcations, and thus by innumerable ramifications are distributed to all points where there is a sensation to be felt or an organ to be excited: after this definition to which there is nothing to be objected he advances the following most extraordinary hypothesis.

"The nervous centre elaborates thought, (*pensée,*) as the liver elaborates bile, as the male organs elaborate the principle of fecundation, and this elaboration is effected at the *expense of the substance of the brain*, for meditation overexercises and exhausts it, as an excess of activity exhausts the other glands."

As we shall shortly have occasion to notice some other equally

startling assertions of our author as respects the human mind, we shall at present make no comment on the above.

From a series of carefully conducted experiments on the intimate structure of the nerves, M. Raspail has been led to the conclusion that the opinion of Bogros and others, of the nerves being hollow and conveying a fluid, is not supported by facts; for although he does not deny that this anatomist succeeded in injecting the nerves with mercury, he considers the passage of this metal through the nerve, to have been owing to its having forced its way by the mere effect of gravity. Under the microscope, our author has found that the nerves presented a perfectly homogeneous structure, with not the slightest trace of a solution of continuity.

M. Raspail's ideas on the organization of the cerebral mass are so peculiar that we shall give his views in his own words.

"The convolutions which are observed on the surface of the cerebral lobes, indicate the salient portion of so many cells, which in turn may be composed of other cells, which themselves contain others. These great cerebral cells are arranged round a common centre, but cannot like the nerves be considered as branches derived from a main trunk. For none of them are destined to receive impressions from without, like the sentient extremities of the nerves, they are merely employed in elaborating these impressions."

The author then states that he adopts the theory of Gall, that the brain is a reünion of organs, each of which is endowed with its own peculiar functions; but he wholly denies that any deductions as to the predominance of one of these over the others, can be obtained from the protuberances of the cranium. Nor does he think that the greater volume of the brain indicates greater powers of intellect.

After speaking at some length on the chemical composition of the brain, on which he has offered nothing that requires notice, M. Raspail enters into a consideration of the functions of the brain. This portion of his work is a mere tissue of wild hypotheses, wholly unworthy of the author, and strongly tinctured with the visionary theories of the school to which he belongs. To enable our readers to judge for themselves, we will subjoin a few extracts.

"The will," says he, "is a result of an atomic combination between two subtle and imponderable elements, impressions and instincts. Instinct is the product of the elaboration of one of the cellular organs of the brain. Impressions are the product of an external excitation. An affinity or attraction exists between impressions and instincts, which varies greatly in its degree as regards the latter."

And he thus proceeds, making out the brain to be nothing more

than a mere chemical laboratory in which ideas and passions are concocted as in a retort. We return with pleasure to the more sane portions of M. Raspail's work, and passing over his observations on the structure of bones, cartilage, &c. in which he has very ingeniously and perhaps justly pursued his vesicular theory, we shall proceed to what we think he has elucidated in an admirable manner—the embryonic tissues, and more especially the placenta.

The ovulum, says he, is a vesicle of the ovary which is filled with organizing (*organisatrices*) substances, and remains stationary, until by contact with the fecundating fluid of the male, its contents being disposed to become organized, it detaches itself from its attachments. This ovulum, when not fecundated, is composed of a vesicle of firm but transparent texture, which is filled with an albumino-saccharine fluid in which no trace of organization is perceptible. M. Raspail, however, once met with an ovulum still attached to the ovary which contained an embryon. After fecundation, as is well known, the ovum is composed of an external vesicle, the chorion, and an internal, the amnios. The chorion, says our author, is first smooth, but afterwards becomes covered with arborescent fibrillæ; at this time no appearance of vascularity is perceptible in it; but in a short time a certain number of these fibres are attracted by the surface of the uterus, when a change takes place in their structure, and they become vascular, whilst those which have no communication with the uterus disappear. The vascular fibres ramify and extend themselves till at last they form a large mass, which is the fœtal placenta. On the other hand, that part of the uterus which has attracted the fibrillæ of the chorion, also undergoes modifications; by degrees this surface loses its smoothness, and at last receives each of the fibrillæ into depressions which form in it; this perforated surface is the uterine placenta. M. Raspail appeals in proof of the correctness of his views, to the following experiment. If, says he, we attempt to separate the two placentas from each other in a careful manner, each bundle of the fibrillæ may be separated from the funnel-like cavity of the uterine placenta. This cavity is perfectly smooth, and does not present the slightest appearance of any intimate attachment having existed between it and the fibrillæ.

These fibrillæ of the placenta perform the same function as the vascular papillæ in the intestines, that of inspiring nutritive fluids. At this time the lungs and stomach of the fœtus are in a state of inaction; the nutritive matters taken up by the fibrillæ arriving by means of the umbilical cord at the liver, which acts as a digestive organ, and pours out its elaborated contents into the intestinal canal,

whose papillæ in turn inspire the nutritive fluid, whence it is conveyed to all parts of the body.

M. Raspail's views respecting the *membrana decidua*, are based on the following proposition.

"That all surfaces of an organ, whether internal or external, having once fulfilled their appropriate functions, become detached, are disintegrated, and expose the layer which they had hitherto covered."

Now, the uterus, during gestation, surpassing all the other organs in development and vitality, must, according to the above axiom, throw off numerous layers, which layers M. Raspail considers as the *membrana decidua* of authors. This is certainly an extremely ingenious theory, but is not we think borne out by facts; if it were correct, we ought to meet with these deciduous membranes in numbers corresponding to the term of utero-gestation, which is by no means the case; it would lead us too far, however, to attempt any observations on our author's theoretical opinions; we have therefore preferred presenting our readers with an abstract of them without comment.

Under the title of French tissues, M. Raspail next gives an account of those abnormal yet organized productions so often met with in the different organs of the body, as hydatids, &c. These, from an examination he made of a cyst from the wrist, he considers as the eggs of some undescribed species of animals. This terminates the first group or organized substances; the second or organizing substances, includes those natural bodies which are the product of the elaboration, to which the contents of the organic vesicle have been subjected under the influence of the vital principle; these the author divides, as in the last group, into vegetable and animal. The vegetable are gum, sugar, and sap, which we regret that we shall be obliged to pass over without further notice, than to recommend to the vegetable physiologist an attentive study of the observations on the cellular and vascular circulation in plants, as being decidedly the best account of this mysterious process that has hitherto appeared.

The animal organizing substances are more numerous, but our limits will only permit us to notice what the author says on the blood; this is an extremely interesting portion of the work, and we have been tempted to examine it at some length. After giving the various analyses of this fluid, M. Raspail proceeds to the mechanism of the circulation, which as might be expected from what we said when giving an abstract of his general theory, he attributes to the expiration and inspiration of the parietes of the vessels.

"As the blood is designed to convey life to all parts of the system and for the nourishment and reparation of the organs, it is necessary that a part of it should be absorbed by the surfaces which it bathes; these surfaces must have

the power of abstracting its nutritive portions, and they must also be enabled to return to it what they cannot elaborate, or in other terms, they must *inspire* and *expire*. Now, this double function cannot take place without producing a motion in the fluid, and this must be constant and uniform, from this double function being inherent to every molecule of the surface of the vessels."

"Every surface which aspires, if it be flexible, must in turn be attracted towards the substance aspired, it is therefore evident that this process alone will explain the movements of systole and diastole of the heart and arteries. The heart in fact, being free as regards the greater part of its surface, therefore offers the least resistance to this action, and hence its motion is the most marked. When its internal parietes aspire, or in other words, assimilate the contained fluid, it contracts, when on the contrary its internal surface expires, being repelled by the fluid it repels, the heart dilates. But as the play of this organ is energetic on account of its size, its movements also add to the rapidity of the circulation in the arterial system, which therefore, besides their own proper actions of aspiration and expiration, present pulsations isochronous with those of the heart."

Such is M. Raspail's theory of the circulation, and it certainly has the merit of being extremely ingenious and plausible; it however, requires more proof than he has adduced in its favour, and in its present form is liable to many objections, as for instance, if the pulsations of the heart and arteries were thus the result of a mere assimilating or reparatory process, why should mental emotions exercise so instantaneous and marked an influence on them.

A great diversity of opinions have existed among physiologists and anatomists as to the form and composition of the globules of the blood, and notwithstanding the apparent accuracy of our author's observations on them, the question still remains in an unsettled state. Thus, he asserts that the globules are entirely soluble in pure water, whilst MM. Donne and Boudet, who have repeated his experiments, positively declare that they are wholly insoluble, and still more recently M. Muller has confirmed this fact. All that can with absolute certainty be said, is that the globules of the blood are formed of a colourless substance, enveloped in a red-colouring matter. As respects the coagulation of this vital fluid, the explanation given by M. Raspail is clear, and merits attention. After stating that blood freshly drawn is always alkaline, he goes on to say—

"The carbonic acid of the atmosphere, and that which is formed in the blood itself, from its avidity for oxygen, saturates this alkaline menstruum of the albumen, which is then precipitated in the form of a coagulum. The escape of the ammonia, (one of the alkalies present,) and above all the evaporation of the water of the blood, also set free an additional quantity of albumen."

Our author has subjoined to this account of the blood some observations on the modes proposed by Orfila for the verification of spots of blood. This discovery was considered of the utmost importance in a

medico-legal point of view, and remained undisputed for a long time. M. Raspail, however, has most incontestably shown that neither the method of Orfila or the still later one proposed by Barruel can be depended upon, as they may lead to the most unfortunate results if adduced as evidence in cases of suspected murder.

We shall not pursue our examination of M. Raspail's work any further, for, as we have already stated, to enter on its contents fully would require as many pages as are contained in the treatise itself; our design will be answered if we shall have excited a desire in our readers to study it themselves, as we feel convinced that it will amply repay the time bestowed upon it, for although there is much in it that s unsubstantiated, and not a little that had better have been omitted, taken as a whole we consider it as one of the most useful works on organic chemistry and physiology that has appeared for a length of time, and we trust that the author may be enabled to revise it in such a manner as to render it of still greater utility. R. E. G.

Art. XVII. *The Hand, its Mechanism and Vital Endowments, as Evincing Design.* By Sir Charles Bell, K. G. H., F. R. S. L. & E. Philadelphia, Carey, Lea & Blanchard, 1833. pp. 213.

THE origin of the Bridgewater treatises, of which this is one, has been so extensively made known, that we avoid giving an account of it here, although this would seem to form the most natural introduction to our review. The common object to be fulfilled by the writers, is to illustrate "the power, wisdom, and goodness of God, as manifested in the creation." It is a noble, but at the same time a most difficult theme. Man is placed at an infinite distance from the throne of the Almighty, and yet in his self-conceit he thinks that "he can by wisdom find out God," and he pronounces with presumptous confidence upon the designs and motives of the Divine government. We remember to have heard Mr. Corrèa de Serra call the searchers after final causes, the *coffee-house politicians of heaven;* and they but too often merit the ridicule so strongly expressed in these words.

There is certainly no occupation more worthy of engaging the efforts of man, than the study of the works of God; and in consideration of the difficulty of the task and the feebleness of his powers, he may well be excused, if he sometimes take erroneous views of nature. But let him beware how he rashly pronounces his views to be those which governed the Creator; let him be cautious, even how he expresses his admiration of what he conceives to be the contrivances of Divine wisdom, lest he should "praise amiss." It is well-known

that Paley, though master of the general argument on which natural theology is founded, committed many errors in the details, and it is painful to observe that he finds the evidences of wise design no less where he is wrong, than where he is right. In "the harmonies of nature" of St. Pierre, this eloquent writer meets with continual subjects of admiration, in a system which often owes its existence only to his own poetical fancy, and which nature herself would never acknowledge. Even our author, though in general cautious and correct, is not always free from this fault of misplaced admiration, as the following example will show.

While defending the economy of nature in certain animals, which, by their languid movements, have excited the compassion of some philosophers, he says, of the chameleon.—"He protrudes his tongue with a motion so imperceptible towards the insect, that it is touched and caught more certainly than by the most lively action." Now, it has happened to us to see the chameleon catching flies, and *our* admiration was excited by the fact that it protruded its tongue with such rapidity as to allow the insect no time for escape. It is true that the chameleon makes its approaches so slowly and cautiously as not to excite alarm; but when it has brought its prey within reach of its long tongue, the last fatal attack is made with a quickness singularly in contrast with the general habits of the animal.

Again, when speaking of birds, our author says—

"It is interesting to notice the relations of great functions in the animal economy. Birds are oviparous, because they never could have risen on the wing had they been viviparous; if the full stomach of a carnivorous bird retard its flight, we perceive that it could not have carried its young. The light body, the quill-feathers, the bill, and the laying of eggs, are all necessarily connected."

Doubtless, it is a wise provision of nature that birds should produce their young by eggs, but that this was not a necessary condition of the power of flying is fully shown in the bat, which is a viviparous animal, and yet flies extremely well. Nature seems to delight in overthrowing our plausible speculations. In contemplating the singular structure of fishes, so admirably adapted to the element in which they live, we should be tempted to suppose that this structure alone could be consistent with the circumstances of these inhabitants of the deep, did not the whale, the dolphin, &c.—those mammiferous fishes, those bats of the ocean, present themselves to refute our theories, and to prove that the resources of nature are not limited to the conceptions which we may form of them.

We do not mean by these remarks to discourage attempts to fathom, as far as we can, the motives and plans of the Creator in his works. On the contrary, we consider this to be the true philosophy of natural

history. But we would insist upon the duty of conducting these researches with the humility and timidity, suited at once to our own limited knowledge and understanding, and "to the height of the great argument." There are not wanting abundant examples of contrivance in the works of nature, of which the object admits of no doubt, and which if rightly interpreted, point with an evidence not to be resisted to the existence of an intelligent and beneficient Creator. To bring forward disputed cases, therefore, and to insist upon ascribing to the Deity our own views, is useless even if we should be right, and if we should prove to be wrong, is a serious injury to the cause of truth.

It is remarkable that the contrivances of nature that most excite our admiration are the most simple, such as the pulley muscle of the eye, and the perforating and perforated tendons of the hand. We see, or think we see, clearly, the object of the Divine mechanic in these parts of his machinery; we seem even to comprehend the train of thought that led to their formation. From such examples, (and they are numerous,) we pass to the contemplation of more complicated organs, such as the eye itself, of which, as an optical instrument, we have also a tolerably clear conception. At length we are lost in mazes of difficulty, and apparent complication. In the mysterious means by which the individuals and the races of living beings are continued in existence, in the functions of motion and sensation, and especially in that of thought, we have the organs offered to our examination, but we find that our understandings are too limited to comprehend them. Still we cannot doubt that these organs are mechanisms not differing in kind from those which we can comprehend, though differing from them in degree, to an extent far beyond the reach of our intelligence. When we turn our thoughts to the divine inventor and constructor of these wonderful contrivances, our conclusions follow an analogous course. In the most simple cases, we see evidences of a train of thought such as our own minds might be capable of, and we naturally conclude that the whole mechanism of nature may therefore have resulted from the high meditations of a perfect and infinite *mind.* Even the most exalted attributes of the Deity are not inconsistent with this view of his nature. What conception of his omniscience, for example, can be so intelligible, and at the same time so sublime as that which is suggested by the following passage from Laplace's "*Essai Philosophique sur les Probabilités?*"

"We must look upon the present state of the universe, as the effect of that which is past, and as the cause of that which is to follow. An intelligence which at any given instant should know all the forces with which nature is animated, and the respective situations of the objects which compose it, if moreover it were sufficiently vast to submit these data to calculation, would embrace, within the same formula, the movements of the greatest bodies of the

universe, and those of the lightest atom. For such a being nothing would be uncertain, and the future and the past would be equally present to his eyes. The human mind offers, in the perfection which it has been able to give to astronomy, a feeble sketch of this intelligence. The discoveries in mechanics and mathematics, joined to that of universal gravitation, have enabled the astronomer to comprehend, in the same analytical expressions, the past and future states of the system of the world. By applying the same method to other objects of knowedge, man has been enabled to reduce the phenomena observed to general laws, and to foresee those which would be produced under other given circumstances. All his efforts in the research of truth tend to bring him nearer and nearer to the intelligence of which we have been forming a conception, though his distance from it must forever remain infinite."

For the first step in the study of natural theology, namely, the explanation of some mechanism within the reach of our comprehension, there is perhaps no object better suited to the purpose than the *hand*, as it exists in man, and as it is presented, under various and singular modifications, in other animals. Accordingly, this topic is expressly named in the testament which has given origin to the Bridgewater Treatises, and is now presented to the public in the work of Sir Charles Bell. The subject is admirably fitted for an essay, admitting of unity without sameness, and variety without confusion. The order to be followed seems to be pointed out so clearly and naturally, that one would suppose no other could be chosen. It is, we should think, to treat first of the human hand, considered in connexion with the whole upper extremity; to describe the bones, and the manner in which they are bound together by cartilages; then the muscles—the beautiful arrangement of the tendons—and the manner in which all the movements of the hand are effected; then the arrangements of the nerves, which convey the commands of the will to the hand, as its chief minister, and which carry back to the brain the impressions made upon the hand as the great organ of touch. In considering these parts of our structure, clear evidences of design would continually present themselves, and might serve as so many texts for inculcating the great doctrine for which the work was written.

After treating of the human hand and arm, a vast and most interesting field of inquiry would still be left, in the modifications of the same general mechanism, presented in the corresponding limb of other animals, and in the evident, wise, and benevolent adaption of these changes to the circumstances of the animal. In this part of the work, a natural and luminous order would be attained by considering first those animals in which the anterior extremity differed least from that of man, and afterwards proceeding, step by step, to the lowest orders of the *vertebrata*, or even to the classes still further removed from the great model. In pursuing these subjects, the author might be indulged in occasional excursions into other fields of research, and thus might be formed a work full of interest

and instruction, in which "the ways of God would be justified," and "eternal providence asserted."

Such was the work that we expected from Sir Charles Bell. But what has he really given us? A mass of confusion—a maze without a plan: the most obvious business of the work wholly neglected, and extraneous matters forced in without a thread of connexion. It is not without pain that we give so unfavourable a judgment, but candour requires it at our hands as impartial critics. We cheerfully acknowledge the great talents of the author—we are grateful to him for the important contributions which he has made to physiology—we find, even in the work before us, interesting and ingenious views which show his research and his sound sense; but these circumstances only make us the more regret that such an author should mar the usefulness of his work by glaring omissions, extraneous matter, and a confused plan.

Will our readers believe us when we tell them that this treatise on the hand gives no where a description of the hand? Yet such is the strange fact. We find, indeed, in the title page, the words—"The Hand, its Mechanism, and Vital Endowments;"—and we find in the table of contents, "the mechanism of the hand," mentioned as one of the subjects of Chapter II.; but these are the only places in the book in which we meet with any thing about this mechanism. If we turn to the single page, (27,) to which the table of contents refers us for this account of the "construction of the hand of man,"—the very business of the author's task, for which he received from the bequest of the Earl of Bridgewater a thousand pounds sterling, we shall find the following paragraph to be the only one that could be meant.

"But the hand is not a distinct instrument; nor is it properly a superadded part. The whole frame must conform to the hand, and act with reference to it. Our purpose will not be answered by examining it alone; we must extend our views to all those parts of the body which are in strict connexion with the hand. For example, the bones from the shoulder to the finger ends, have that systematic arrangement which makes it essential to examine the whole extremity; and in order fully to comprehend the fine arrangement of the parts, which is necessary to the motions of the fingers, we must also compare the structure of the human body with that of other animals."

Is this an account of the mechanism of the hand? If it be not, it will be found no where else. The paragraph seems, however, to point out a course which might lead, in the end, to this avowed object of the treatise. Let us see how this plan is pursued. First the author defines the term skeleton; then he speaks of the function of respiration, and of the class of vertebrated animals; he then alludes to the bones which, in other animals, correspond to those of the upper extremity in man, and glances at their singular modifications and adaptations; then he passes off to the subject of fossil remains, and speculates about the former states of the earth—a favourite topic,

which is resumed again and again in this work on the human hand; next we have a defence of the sloth and other tardigrade animals, and an account of the manner in which the author supposes that the chameleon catches flies, and in which certain spiders actually do catch them; then our author returns to the antedeluvian world, in which he dwells for four or five pages, indulging himself in speculations about the balance of power among the animals now extinct. Lastly, there is a premature discussion of certain false notions of the modern system-makers—a discussion to be again resumed in other places. Such are the multifarious and incongruous topics considered in the only chapter to which we are directed for a description of the mechanism of the hand.

Disappointed here, we still look, with some hope, to the next chapter, which is headed—"The Comparative Anatomy of the Hand." Our encouragement is increased, when we meet with the author's good resolution, as expressed in the following paragraph:—

"Were it my purpose to teach the elements of this subject, I should commence with examining the lowest animals, and trace the bones of the anterior extremity as they come to resemble the human arm, and to be employed for a greater variety of uses in the higher animals; but as my present object is illustration only, I shall begin with the human hand, and compare its parts. With this view, I shall divide the extremity into the shoulder, arm, and hand, and treat each subdivision with a reference to its structure in animals."

In compliance with this plan, the author, in the very next paragraph, considers—what think you reader?—why, the strength and solidity of the lower extremities—the length of these limbs—the width of the pelvis—the distance of the great trochanters from the sockets—the size and prominence of the processes—the mass of muscles on the loins and hips—and the contrast of all these with the corresponding parts of the chimpanzee, an ape which stands high in the order of the quadrumana!

After this, indeed, the author seems to enter upon his appointed work, and treats of the bones of the shoulder and arm, though most vaguely, and not without numerous wide digressions, some of which are into his favourite regions of the antediluvian world. At last we come to the title "Of the Wrist and Hand," and we have hopes that some portion of the thousand pounds sterling bequeathed for the account of the "construction of the hand of man" will now be earned. But the whole of the money's-worth is included in the following extract:—

"In the human hand, the bones of the wrist (carpus) are eight in number; and they are so closely connected that they form a sort of ball, which moves on the end of the radius. Beyond these, and towards the fingers are the metacarpal bones, which diverge at their further extremities, and give support to the bones of the fingers. The thumb has no metacarpal bone, and is directly articulated with the carpus or wrist. There are thus in the hand twenty-nine bones, from the mechanism of which, result strength, mobility, and elasticity."

Here the author's theme came full before him, but he starts from it, as from a spectre, and gives us an intelligible and really interesting account, not of the human hand, but of the fore-leg of the horse. All the remainder of the chapter is taken up with miscellaneous observations of comparative anatomy, from which we select the following:—

"I have alluded to the observation of President Jefferson on the Megalonix. Having found a bone, which by its articulating surface and general form, he recognised to be one of the bones of the phalanx of an animal of great size, he thought he could discover that it had carried a claw; and from this circumstance, he naturally enough concluded, (according to the adage—ex ungue leonem,) that it must have belonged to a carnivorous animal. He next set about calculating the length of this claw, and estimating the size of the animal. He satisfied himself that in this bone, a relic of the ancient world, he had obtained a proof of the existence, during these old times, of a lion of the height of the largest ox, and an opponent fit to cope with the mastodon. But when this bone came under the scrutiny of Baron Cuvier, his perfect knowledge of anatomy enabled him to draw a different conclusion.

"He first observed that there was a spine in the middle of the articulating surface of the last bone, which in this respect was unlike the form of the same bone in the feline tribe. He found no provision in this specimen of an extinct animal, for the lateral attachment of the bone, which we have just noticed to be necessary for its retraction. Then observing what portion of a circle this bone formed, he prolonged the line, and showed that the claw belonging to it must have been of such great length, that it could never have been retracted to the effect of guarding an acute and sharp point. The point, therefore, could not have been raised vertically, so as to have permitted the animal to put the foot to the ground without blunting the instrument! Pursuing such a comparison, he rejected the idea of the bone belonging to the feline tribe at all. His attention was directed to another order, the paresseux or sloths, which have great toes and long nails. Their nails are folded up in a different fashion; they just enable the animal to walk; but slowly and awkwardly, something in the same manner as if we were to fold our fingers on the palm of the hand, and bear upon our knuckles. On instituting a more just comparison between these bones of the ancient animal, and the corresponding bones of the paresseux, he has satisfied us, that the lion of the American President was an animal which scratched the ground and fed on roots.

"One experiences something like relief to find that there never was such an enormous carnivorous animal as this, denominated Megalonix."

Chapter IV. professes to treat "of the muscles," and begins with the following luminous definition. "The muscle of the body is that fleshy part with which every one is familiar." Some general views of muscular action are then presented, and nature is successfully defended as to the supposed mechanical disadvantage at which most of the muscles seem to operate. At last the student of natural theology arrives at the point at which he is to look for a description of the machinery by which the infinitely varied motions of the hand are effected—he feels himself under the influence of a rational, a pious curiosity, and he meets with the following paragraph.

"The demonstration to the anatomical student of the muscles of the human hand and arm, becomes the test of his master's perfection as a teacher. Nothing is more uninteresting, tedious, and difficult to attend to, than the demonstration of the muscles of the arm, when they are taken successively, as they present themselves; but when they are taught with lucid arrangement, according to the

motions performed by them, it is positively agreeable to find how much interest may be given to the subject.

"It would be foreign to the object of this work to introduce such demonstrations here."

Foreign to the object of this work! Astonished by this strange assertion, we turn to the will of the "right honourable and reverend" founder of the project, and we find the following words:—

"The testator further directed that the person or persons selected by the said president, should be appointed to write, print, and publish one thousand copies of a work, on the power, wisdom, and goodness of God, as manifested in the creation; illustrating such work by all reasonable arguments, as for instance—*the construction of the hand of man,* &c."

For this special task Sir Charles Bell has received a thousand pounds sterling, and the copyright of his work, which we suppose to be worth as much more, for every body will be expected to read the Bridgewater treatises. Yet, when, in the course of his vague disquisitions, he is called upon, by an accidental approach to his subject, to explain the "construction of the hand of man," he casts it by, with the declaration that it is *foreign* to the object of the work! Now, we would ask if it be possible to form any notion of the construction, or, (to use the word which figures in the title page,) the *mechanism* of the hand, without explaining the arrangement and action of the muscles which belong to it. We would ask, too, whether there be any example in the whole animal economy, in which "design" is more clearly evinced, in which "the power, wisdom, and goodness of God" are more evidently exhibited.

The careful exclusion from this work of all account of "the mechanism of the hand," reminds us of a bill stuck up by a company of strolling players, in which they announced "Shakspeare's celebrated tragedy of Hamlet, Prince of Denmark," with the following notice: "N. B. The part of Hamlet omitted by particular desire."

The strange disregard of order, so constantly manifested in this work, is even ludicrously exhibited in the subjects of the seventh and eighth chapters. The first of these, which is a long one, has for title, "Of Sensibility and Touch;" and what will our readers suppose to be the theme and title of the chapter which *follows* it? It is, "Of the Senses generally, *introductory to the Sense of Touch.*" In these, and in the chapter "On the Muscular Sense," there are, indeed, thrown together many interesting and acute observations; but the wise precept, that we should have "a place for every thing, and every thing in its place," is lamentably neglected.

Our author shows a sound judgment in the discussion of several theories which have from time to time been introduced by speculative philosophers, and enjoyed their day in the schools. One of these theories supposes that the limbs of an animal are modified *by* the cir-

cumstances, and not *for* the circumstances, in which it is placed. That for example, the neck of the giraffe has been gradually elongated, from generation to generation, because this remarkable quadruped has been obliged to reach up to the branches of trees to obtain its food; thus denying that a wise and kind Providence presided over the formation of this animal, and *so* formed it as to fit it to its condition. Another theory, referring to the extreme simplicity and apparent imperfection of the animals which existed in the earliest stages of the world, and which are now known to us by their fossil remains, imagines that nature has been gradually improving in her creative powers, and that these early beings were the productions of her "'prentice hand." Sir Charles Bell's answer to this notion is ingenious and conclusive. Another of these speculations, discussed and refuted by our author, is what has been called the "theory of elemental parts." It supposes that the same constituent materials enter into the composition of all animals, and that if, in any animal, a part be missing in a place where it is met with in the general model, this part is merely transferred, and is to be met with somewhere else. Thus, in the mammalia, a chain of bones in the ear is curiously adapted to convey the vibrations of the membrane of the tympanum to the nerve of hearing. In birds, this chain is wanting, and instead of it, a single bone, the *columella*, is substituted; and consequently parts are missing, and among them the *incus*. Now, say the speculators of this school, this part is found in what would otherwise be a new element, namely, a peculiar bone existing in the jaw or mandible of the bird, called the *os quadratum*, and which bears some resemblance to the incus. The hypothesis, even in this example, which is a plausible one, is easily overthrown. These theories have, however, only a distant connexion with the professed subject of the work. The last that we shall mention is immediately connected with it. It is the notion, first taught by Anaxagoras, that the superiority of man over all other animals, is owing to his hand, "the consummation of all perfection as an instrument." On this subject, which is treated in the last chapter of the work, our author very properly adopts the opinion of Aristotle, that man is not the wisest of animals because he has hands, but that hands were given to him because he is the wisest of animals.

We cannot conclude our review, without again expressing our regret, that a confused plan and the unaccountable omission to describe the mechanism of the hand, must go far to make this work a failure, as regards its avowed object; but it would be unjust not to state, at the same time, that it gives us abundant evidence that the author had knowledge and talent to execute the task prescribed for him, if he had chosen to do so.

R. M. P.

BIBLIOGRAPHICAL NOTICES.

XVIII. *Illustrations of Pulmonary Consumption, its Anatomical Characters, Causes, Symptoms and Treatment. With twelve plates, drawn and coloured from nature.* By Samuel George Morton, M. D. Physician to the Philadelphia Alms-house Hospital, Lecturer on Anatomy, &c. &c. Philadelphia, Key & Biddle, 1834, pp. 183.

It would be sufficient to say that the present was an original work on pulmonary consumption, prepared in the United States, containing new cases, implying and usefully exercising an acquaintance, on the part of the writer, with modern morbid anatomy, ornamented and enriched by the addition of a set of handsome lithographs, augmented with independent observations, and stating the results of recent experience in the use of the principal remedies—it would be sufficient, we apprehend, to say this, in order to command the good wishes of every true friend to the diffusion of useful professional knowledge in America. Any disposition to captiousness, or in some measure, perhaps, even to criticism, should be silenced by this feeling. Dr. Morton has unquestionably done a service to the country by the production, within its boundaries, of a monographic work on an important disease, containing copious details and valuable representations in morbid anatomy. This example, if it prove successful, will no doubt be imitated; and we shall thus, commencing with the systematic treatise of Dr. Horner, possess a series of publications on this branch of medical science; a branch among the most important, at once from its intrinsic usefulness, and from its peculiar adaptation to the spirit of the times. The principal improvements which have recently been made in our profession have been through the medium of morbid anatomy, and lovers of their country would have cause to regret if Americans should obtain no share in that harvest to which the present state of our science seems so particularly to prompt its votaries.

The object of reviewing, therefore, in such a case as this, should be rather to make known the existence, nature, and utility of a book, than to indulge in peevish comment upon its faults. Let us nourish the tree, and allow it to strike deep and firm root in the soil, before we begin to deprive it of its branches by the pruning-knife. Yet, at the same time, when comments suggest themselves to our mind as worthy of a place, we shall not hesitate to insert them. We conceive this course to be the most just, both to the public and to the author, and shall write with confidence, wishing to treat Dr. Morton, in all respects, as a man of science and of liberal views.

The work is certainly a very beautiful one;—the lithographs are finely executed and well coloured. They form a striking and interesting series of "illustrations" of the progress of this formidable disease from its commencement, through its various morbid conditions, to its natural cure. Of this last process, in single tubercles, there are very beautiful examples in Plates IX. and

XII., while Case 28 records the history of an individual in whom the recuperative change seems to have been nearly completed throughout the whole lungs; her death having been produced by a different affection.

Plates VIII. and IX. illustrate a very remarkable case, in which the tubercular pus obtained a passage between two ribs among the muscles of the back. It here gave rise to a large abscess, by the progress of which the spinous processes of several vertebræ were denuded, and great destruction effected among the soft parts. In this curious instance, the whole lung was consolidated, with the exception of the cavity giving rise to the above occurrences, by the gray induration, and by a number of tubercles; one of which was that already mentioned as being cicatrized.

The three first plates contain numerous examples of granular and miliary tubercles. Plate I. gives a view of the bronchia, coloured by the inflammation which follows, in them, the opening of tubercles into their cavities. Plate II. fig. 3, exhibits instances of tubercles beginning to soften at the edges, instead of commencing in the centre, as they are commonly said to do. It also exhibits a tubercle embracing a portion of the matter of melanosis; from which circumstance Dr. Morton infers that "it has grown by the superposition of parts, and not by interstitial deposition." We are here tempted to inquire whether the matter here styled melanotic be any thing more than the common black matter of the lungs. In Plate III. is a large encysted tubercle, and also another cyst containing a calcareous concretion. Below is a specimen of gelatinoid infiltration.

Plate IV. fig. 1, is an example of numerous small tubercles and commencing vomicæ, in a mass of lung affected with pneumonia, passing from the stage of simple congestion to that of hepatization. Fig. 2 represents a large vomica, of a greenish hue, traversed by the numerous bands so frequently met with under these circumstances, and from which Dr. Morton calls such "funicular" abscesses. These bands, in contradiction to the opinion expressed in general by the celebrated Laennec, are traversed by large branches of the pulmonary artery. Plate V. fig. 1, represents an encysted tubercular cavity, with a mass of pulmonary matter at the bottom of it, containing blood-vessels. Fig. 2 exhibits another encysted abscess, lined extensively with extremely vascular granulations, which gave rise, as Dr. M. apprehends, to a very copious hæmorrhagy with which the patient had been harassed. In Plate VI. is figured a large abscess with gangrenous spots. Across the cavity of this stretches a very large branch of the pulmonary artery, of a lively red colour, entirely deprived of all covering, except a few particles of tubercular matter adhering to it, and sending off several ramifications under the same circumstances. This, of course, furnishes a strong confirmation of the remark referred to under Plate IV. fig. 2, that arterial branches may traverse tubercular cavities. We observe that in the narrative of the case, (Case 22, p. 86,) this vessel is called a vein, although it is said to have been traced to the pulmonary artery. Plate VII. exhibits gelatinoid infiltration of several colours, as also another instance of the columnar bands above alluded to, and permeated by arterial branches. In p. 85, we are told that these latter frequently traverse tubercular cavities, and suddenly become impervious at the end of their transit, and the vessels represented in the present plate furnish an example of this fact. Plate X. is a beautifully-coloured figure of a larynx and trachea intensely inflamed, and containing numerous

ulcers, some of which perforate the cartilages. Plate XI. fig. 1, exhibits fibro-cartilaginous adhesions of the pleura, consequent on a chronic inflammation; and fig. 2, displays two adhesions of a thick, cord-like form, and containing fat; the effect of which cords was to prevent the collapse of the lung, which would otherwise have been produced by the liquids effused into the cavity. The case was one of acute pleurisy. The second figure in Plate XII. is a very curious view of an intense broncho-trachitis, with ulcers, and of enlarged bronchial glands with calcareous concretions and ossifications.

We have spoken of the plates in the first instance, and detailed their contents as above, because we really considered them a principal portion of the work. These beautiful illustrations form a topic by themselves; and accompanied by the narratives which belong to them, they would have been well worthy of publication without any further addition. The remark of the classic, "segnius irritant," &c. is in no case more applicable than in the instance of morbid anatomy. Persons may read for a length of time descriptions of anatomical changes, followed by discussions respecting their nature and treatment, without acquiring accurate conceptions of their appearance, or indeed gaining confidence in the observer's own ideas of that which is described, when a brief examination of a specimen in nature selected by a judge of the subject, or of a well-executed plate, will entirely remove the difficulty. The mind becomes satisfied in the accuracy of its own apprehensions, and knowledge and arguments that were floating and vague before assume a character more fixed and definite. More interest is taken in further discussions and observations, and the inquirer feels that he is advancing in information. We will not pretend to say that any substitute is entirely equivalent to a course of dissections conducted in the best manner; but then so many difficulties occur in the way of this, so few are placed under the guidance of persons competent to make, exhibit, and explain them, that it has always appeared to us that the student of morbid anatomy must ever depend in a great degree upon engraved or lithographed representations. These present the facts of nature, freed from the disgusting circumstances of the dissecting-room, displayed in the most distinct and advantageous manner, and accompanied by explanations, which, unlike the oral teachings of the professor, may be made to wait for the convenience of the busy practitioner, can be resumed or quitted at a moment's warning, and will pause during any interval for more deliberate study or extended reference. They are not an adequate substitute for nature, it must be confessed; but then it will be admitted that nature frequently passes through the hands of the observer without being so well understood, or even so completely seen.

It is time, however, to proceed to our author's text. The two chapters with which he commences are anatomical; the first containing a view of the anatomical changes which are usually found accompanying tubercles in the lungs of pulmonary patients. For this he apologises, we think without necessity, as it appears to us to form an important part of the subject. It is certainly impossible to form an adequate idea of the condition of such a patient without understanding these collateral changes; even the evidence of the stethescope and percussion being unintelligible under such circumstances; and as his book is elementary, the definitions seem to us absolutely necessary. We are surprised that he has here overlooked interstitial hæmorrhagy, or the "apoplexy of the lungs," of Laen-

nec; an affection which so frequently precedes the discovery of tubercles, to the terror and distress of families. To this he alludes at p. 55, occupying some space with this very interesting subject. We observe, p. 58, that Dr. M. applies the term "pulmonary apoplexy" in the sense in which some American physicians have used it orally, though we do not recollect to have seen a definition of this in print, nor does our author give us one. He evidently views the term apoplexy, thus used in respect to the lungs, as implying simple congestion, of which hæmorrhagy may be one of the consequences.

"All circumstances considered, we may refer the origin of the preceding disease to pulmonary apoplexy, of which the hæmoptysis was a consequence and indication." p. 58.

We confess we are not satisfied with the use of the term. "Apoplexy of the lungs" is a phrase now devoted by a numerous mass of physicians, including nearly all the anatomical school, to the expression of a *hæmorrhagy* of that organ; and this use corresponds with the strict use of the term apoplexy, as applied to the brain, where it likewise means a hæmorrhagy. It is true, that owing to the prevalence of an erroneous pathology, that which ascribes the production of stupor to pressure, other lesions of the brain also occasionally received this name; but as these are evidently distinct affections, though they frequently have this symptom in common, anatomical physicians now no longer use the same word to express two such dissimilar states of the organs. Many practitioners, undoubtedly, still continue this use of the term, but we had hoped the impropriety of grouping a sudden congestion and a hæmorrhagy under the same term was gradually falling into disuse, and were therefore less prepared to find it extended to other parts of the body. In the case of the brain, there is still some excuse—the two affections not unfrequently resemble each other in the production of torpor; but in the lungs there is no resemblance, unless in the simple fact that the same part of the body is diseased in both cases. We could have wished, too, that Dr. Morton's dissections had furnished him with a good specimen of the disease to which this name has been given by Laennec and others, and of which such a beautiful plate is furnished by Cruveilhier. We should then have seen at once that simple congestion is not to be confused with such a hæmorrhagic affection; although, as Dr. M. suggests, the one may not improbably be antecedent to the other. At page 123, we find Dr. Morton claiming for Dr. Rush the origin of this use of the term "forty years ago," and, if we understand the succeeding sentence aright, he attributes to Laennec the same combination of simple congestion and hæmorrhagy which he employs himself. This last, however, we believe is erroneous.

Chapter II. contains definitions or descriptions of the different stages and states of tubercle. We do not well understand the reference to Plate III. fig. 2, for tuberculoid granulations, which do not appear to us well exemplified in this plate. Unless this be an exception, the definitions are neat and clear, and correspond with the illustrations. With the termination of this chapter we begin upon doctrinal matters.

Dr. Morton, after speaking of the great frequency and prevalence with which tubercular disease commences at the top of the lung, proceeds to give us a theory upon this subject, and one upon which we cannot unite with him. He explains the circumstance alluded to by the *immobility* of this part of the tho-

racic parietes, which does not allow the same expansion, as is the case with the rest of the thorax. This state of things he considers as equivalent to compression, and such as the peculiar cause of tubercles in that situation. This view of Dr. M. coincides with his decision, page 45, against tight-lacing, as a fertile cause of consumption; on which he inveighs at some length. To this we reply, first, that the authority of Louis on this point is exactly in opposition to him. He states, p. 531 of his work on consumption, that his male patients, who wore no corsets, were quite as numerous as the female; and again, that the greater portion of his female cases occurred in women who had been educated in the country, and had never subjected their lungs to the confinement of these articles of dress until after they completed their growth. In the next place, if this be conceded as a cause of phthisis, the question as stated above by Dr. Morton rests upon totally different grounds; as we have here a natural structure, and not an artificial compression. Whether this portion of the thorax expands might be perhaps made a question in anatomy; but certainly the lung, in the natural condition of the pleura, possesses the power of sliding downwards to a wider part of the cavity, when the expansion takes place below. To suppose the original structure of the human race imperfect at this point, so as necessarily to lead to disease, seems to be impeaching the perfection of nature, and to stand at war with what we know of the general order of things. We will suggest to Dr. Morton the agency of another cause upon the top of the lungs, which seems to us to go far towards accounting for the production of tubercles in this point with peculiar frequency, as well as that of the great number of pulmonary catarrhs with which the inhabitants of our country, of both sexes, suffer so severely. We allude to the ordinary construction of our dress, by which this part of the body is exposed to the vicissitudes of the weather with a fearlessness which by no means seems to indicate colds in that portion of the body as the greatest outlet of human life. The ordinary dress of our females leaves the whole top of the lungs, the favourite seat of tubercles, either entirely without covering of any kind, or with that which is very inadequate. The portion which is situated between the scaleni muscles is, we believe, never covered; and many, if not most, of our fashionable dresses also expose to the influence of the air a more or less considerable portion of the space below the clavicles. In the male sex, although not to the same extent, a practice similar in its nature also prevails, our waistcoats being nearly all made to open and admit the cool air to the parts which lie over the bifurcation of the bronchia, and the vicinity of the clavicle. It seems to be the prevalent opinion, at the present day, that cold, at least damp cold, is the principal determining cause of pulmonary consumption; the later writers being generally agreed on this point; and if so, of how great importance must it be to guarantee these tender parts, so very frequently the victims of mortal disease, against the atmospheric influences.

Dr. Morton is brief upon the elementary nature and production of tubercle, and seems to feel the confinement of the narrow bounds to which he has restricted himself. He conceives himself as having established—

"1. That tubercles are an altered secretion of the albuminous halitus proper to the cellular tissue forming the parenchyma of organs. 2. That inflammation is not necessary to their development. 3. That the cellular tissue which en-

velopes and intersects tubercles, sooner or later takes on inflammation and secretes pus, by which process the tubercular matter is eliminated and an abscess is formed."

That inflammation is a very frequent cause of tubercles, cannot, we think, in the present state of morbid anatomy, be denied, and at the same time it must also be acknowledged that tubercles frequently occur through an operation of the white capillaries alone. On this point, however, it is sufficient to refer the reader to the work on the Principles of Medicine, by our eloquent collaborator, Dr. Jackson, and to his essay, in the 5th volume of this Journal, where this subject is clearly and ably treated, and where the absurdity of confusing together the lymphatic absorbents and the nutritive white capillaries is sufficiently pointed out and guarded against. We shall, therefore, not detain our reader longer upon this theory, but proceed in a manner more considerate of the bounds of our article.

With regard to the outward appearances of the tubercular or scrofulous diathesis, nearly two-thirds of the white phthisical patients who have come under Dr. M.'s care have had dark hair, dark or sallow complexions, and dark eyes; and of the remaining third a large number had reddish hair, and what is called the sandy complexion. These observations, which certainly do not tend to confirm the common description of the scrofulous temperament, are strengthened by remarking the great predisposition to phthisis of the negro race. Although thus unable, however, to point out the distinctive characters usually ascribed to this predisposition, our author does not deny that it really exists and is transmitted by inheritance. He apprehends bronchitis to be a frequent exciting cause of pulmonary tubercle, and gives a case in which these changes took place in the course of an attack of measles. After some remarks upon the effects of trades and professions, climates, weather, and age upon the production of the disease, he relates two cases, one of which terminated within three months and the other within one month of birth.

Under the head of symptoms, two striking instances are narrated, in which the cough and expectoration ceased for a considerable time before death, and on dissection no particular accumulation of fluids was found on the mucous membrane, which therefore appears to have ceased to secrete that substance, or as suggested by M. Andral and others, to have permitted them to be absorbed. Several pages are then occupied with the important subject of hæmoptysis. He has not, as we have already intimated, furnished us with any plate of the hæmorrhagy of the substance of the brain, the apoplexy of the lungs of Laennec. In the place of such may be substituted his beautiful figures of large arterial branches traversing tubercular cavities, which we have already enumerated, and some of which appear to give rise to the hæmorrhagy of his cases. A case is narrated at p. 60, &c. in which Dr. M. apprehends the hæmorrhagy to have arisen from the rupture of a vessel. This inference he seems principally to found upon the sensation by the patient of a "snap" in the left lung. An article, "hæmoptysis from the parietes of abscesses," contains a case, illustrated by one of the plates, in which the hæmorrhagy appears to have arisen from granulations in the lining of a cavity. With these we are willing to leave the catalogue of his symptoms. Most of the chapter is occupied with several of the leading symptoms considered separately. It concludes with a case in which a very large

number of tubercles were developed in the lungs and in various other organs of the body, and which nevertheless exhibited no symptoms whatever of the pulmonary affection.

Among the complications, that with fistula in ano will not attract our particular attention. The article on morbid affections of the pleura contains a case of a very large abscess without any adhesion in the pleura adjacent, forming an exception to the remark, general in this respect, of Professor Louis. Perforation of the pleura, encephaloid tumour, and the case of extensive denudation of the arteries already mentioned, and figured in the plates, are all successively treated. Gangrene, the case of abscess perforating the back, a case complicated with disease of the liver, cicatrization, tubercles of the peritoneum with an acute inflammation of that membrane, ulceration of the trachea, abscess connected with a similar cavity in the liver, and a purulent chronic catarrh, apparently from a calculous concretion in the lung, are all illustrated in the seventh chapter. The eighth is occupied with the stethescope. We regret its shortness; this seeming an anomaly in such a work. The author does not profess to render his work complete in this respect, but refers to Williams, Collin, and the original work of Laennec.—On the important subject of the *treatment*, we should be glad to be more minute. He treats early hæmoptysis with bleeding, followed by spirit of turpentine, elixir of vitriol, common salt, opium, sugar of lead, &c., admitting any one of these as effectual. He then applies cups to the infra-clavian region, followed by a blister, and afterwards by an issue or a tartar emetic plaster, with perfect rest, and a diet of gum-water and farinaceous food. He then strongly recommends the country, not fearing injury from the motion of a carriage. When hæmoptysis takes place after a cavity exists, he disapproves of bleeding or any other active depletion. He employs the other remedies indicated above, with the addition of tonics and alteratives.

Dr. M. expatiates upon the very great importance of curing chronic catarrhs; but as his observations on that subject do not appear likely to interest our readers particularly, we shall not extract them. Hectic is treated, early in the case, and when severe, with blood-letting; after which resort is had to digitalis, as also to neutral mixture, acidulated drinks, with or without sweet spirits of nitre, and spongings of the limbs executed with cold vinegar and water. The bowels are regulated with magnesia, or small doses of neutral salts, and carriage-riding resorted to as soon as practicable. Night-sweats are checked by lotions of alum and brandy, and by infusion of sage with elixir of vitriol. "In many instances," says our author, "a dose of this mixture taken every night at bed-time will answer every purpose." In one instance equal benefit was derived from prussic acid, and in one from a combination of sulphate of iron and alum.

The pleuritic pains which accompany the development of abscesses are to be treated by a few blisters or cups over the affected part, followed by a small blister, and this again by a poultice of bran and flaxseed—a practice taken from Professor Broussais. The gastric symptoms we pass over. Dr. Morton treats diarrhœa most successfully by injections of morphia dissolved in gum water, infusion of flaxseed, or some other bland mucilage. He often adds with advantage a table-spoonful of camphor water. He has also derived signal benefit from the mixture of laudanum, camphor, and nitric acid, recommended by Dr. Home, which he makes very weak. Where other means have failed, calomel in small

doses, with opium and ipecacuanha, are found effectual. A strong infusion of dogwood, and also the combination of alum and sulphate of iron, recommended to and by M. Orban, from the Moorish physicans of Morocco, are among the remedies which Dr. Morton has tried with success. One and a half grains of each of the above-named salts were given by Dr. M. twice a day. Costiveness is to be treated, where this is necessary, by bran bread and cream, morning and evening, or by ripe fruits. Where these means are insufficient, rhubarb, either alone or with magnesia, or the neutral salts should be used. Frequent vomiting, according to our author, can only be relieved by an extremely simple diet. It is sometimes necessary to confine the patients to mucilaginous drinks for several days in succession; and in other cases nothing should be taken into the stomach but lime water and milk.

Some of the results of Dr. M.'s therapeutical trials have been very flattering. He is sanguine in relation to digitalis. Of iodine he has made numerous trials, and feels "able to express an unequivocal opinion respecting it. In a large number of instances, it has appeared, especially in incipient consumption, to arrest or suspend the tubercular secretion, and with it the hectic, marasmus, cough, dyspnœa, and other urgent symptoms." He is "cautious to discontinue it whenever it is followed by sick stomach, vertigo, or any of those symptoms usually called nervous, as also when there is much febrile excitement;" several instances having occurred "in which the persistence in it would have certainly terminated in very unpleasant consequences."

"There are," says Dr. M. "again, some constitutions in which it does not appear to produce any obvious effects, either for better or worse; but in a majority of cases, even in the second stage of phthisis, I have been much gratified with the results. Thus, it often relieves the dyspnœa, improves the complexion, and restores the appetite, even when the advanced progress of the disease precludes all hope of recovery. A lady has assured me that whenever her cough, dyspnœa, and febrile symptoms warn her of a fresh accession of disease, the use of the iodine at once dispels the symptoms, and restores her to her usual health. In another marked case, that of a middle-aged man, one whose lungs has been in a state of abscess for eight months past, I have repeatedly rescued him from alarming relapses by the iodine mixture alone. In some instances, it has so obviously improved the nutritive function that patients have increased in flesh by its use, and at the same time recovered, in a considerable degree, a naturally florid complexion."

From prussic acid our author has derived the usual advantages; he has found much benefit, in the chronic catarrhs of old persons which simulate phthisis, from the use of Uva ursi. He also speaks in high terms of the restorative powers occasionally to be met with in compound extract of sarsaparilla, as now made in this city. Of mercury he does not speak in terms at all calculated to recommend that medicine for the treatment of consumption. Where a scrofulous taint is evinced, in addition to pulmonary tubercles, he combines the sarsaparilla extract with hydriodate of iron. He praises tonics, but has chiefly confined his trials of remedies in that category to Prunus virginiana. Narcotics he has found indispensable as "the less of two evils;" and he has employed hyoscyamus and cicuta with great advantage.

Dr. M. is much gratified with the consequences he has obtained from the tar fumigations, practised according to the method of Sir Alexander Crichton. As the benefit has seemed to Dr. M. to be in exact proportion to the accuracy

with which the instructions given are fulfilled, we shall not apologise for copying the latter.

"An ounce of potash is added to every pound of tar, in order that the latter may be deprived of its pyroligneous acid. The two ingredients, being well mixed, should be boiled for a few minutes in the open air, in order to disengage any impurities, and should then be kept at a simmer in the room of the patient. This is readily effected by putting the composition in an iron vessel, and placing the latter over a spirit lamp or some analogous contrivance."

The plan of burning tar, rosin, myrrh, and other substances in the room of the sick, without the above precautions, he has found unsuccessful.

Iodine inhalations, as recommended by Sir Charles Scudamore, he has not tried; but his trials with chlorine led to disappointment. We have tried both, and do not wonder at his disappointment. In fact, if iodine did or do act upon tubercles, what useful result is to be expected from applying a substance so irritating to the inflamed mucous membrane? The inhalations of tincture of Conium maculatum, however, recommended by Sir Charles as a palliative to do away the irritating effects of his own remedy,* are recommended from experience by Dr. Morton. He quotes them from Dr. Pearson, and makes the tincture with ether, and not, as Dr. Scudamore, with alcohol.

Issues are much used by Dr. Morton on the regions below the clavicles, and at the lower part of the sternum; (he does not tell us with what object this last situation is adopted.) He has found these exutories less inconvenient than setons or antimonial pustules. The time to interpose them with effect he has found to be the onset of consumption; and they have not interfered with the important object of long journies and other exercise. They should not be suddenly discontinued.

On the subject of *diet*, and the diversity required, we shall not abstract any portion of our author's reflections. On that of clothing we think him particularly sound. He expostulates against the preposterous and fatal idea of *hardening* children by exposing them to the causes of disease—insists on the importance of maintaining a healthy action in the skin, and strongly urges the use of plentiful and warm clothing. For the invalid he recommends the buckskin vest. The directions for exercise are also very sound. They coincide, making allowance for an abatement of enthusiasm from a more prolonged experience, with those of Sydenham. The articles on this subject, and on climate and voyages, are very agreeable reading. We are obliged, however, to adhere to our system of abridgment. Dr. Morton recommends inland and dry situations and the air of pine forests for the residence of persons having weak lungs. All experiments of the sea-shore, however mild the climate, and however plausible the first alleged successes, seem to end in disappointment and disaster. On the other hand, the most obstinate catarrhs have yielded in a few days beneath the influence of the balsamic air of the New Jersey pines. The other alternative of voyages across the high sea is also strongly recommended; and considerable space occupied with sketching out a journey through the west and south, and criticising the relative advantages of different ports in foreign countries to which the navigator for health may have recourse. We have found these pages highly

* See his Essay on Iodine Inhalations.

interesting and useful, and should be glad to abridge them, but hasten to the conclusion of our task.

There remain for its completion but a few gleanings and the close. In his concluding observations, Dr. Morton urges the possibility of doing much for consumption. He believes that the anatomical cures occur with sufficient frequency to be an object of real value in practice. He has no doubt, and we agree with him, that many of the apparent recoveries of consumption which pass before our eyes, are real. The contrary opinion, which denies the name of consumption, ipso facto, to every case that recovers, and makes death part of the diagnosis, has long seemed to us to lower the dignity of the human understanding. To hold to this in practice, in opposition to the well-established anatomical facts which exist to the contrary purport, is worthy to be called a superstition. It is adhering, in the face of facts, to an old and fully exploded opinion, founded upon a false hypothesis, that of the impossibility that a wound in the lungs should heal in consequence of the motion of the parts; and it never had any rigorously observed facts to support it. We have therefore a right to assume pulmonary consumption as a malady still fatal, appalling, destructive, calamitous, but yet not absolutely incurable. The kind beneficence of nature bestows cheerful anticipations upon the phthisical patient; and the present error at least ought not to deprive him of them. His cup, like the box of Pandora, is charged deep with every woe—let us leave him *hope* at the bottom.

In the appendix, a statement by Dr. Emerson exhibits the relative mortality of Boston, New York, Philadelphia and Baltimore, by consumption and acute diseases of the lungs. We give the general result, naming the cities in the order in which they suffer from this cause:—Deaths by consumption in proportion to the whole mortality—New York, 1-5.23. Boston, 1-5.54. Baltimore, 1-6.21. Philadelphia, 1-6.38.—By consumption, joined with acute diseases of the lungs—New York, 1-4.07. Boston, 1-4.47. Philadelphia, 1-4.90. Baltimore, 1-5.33.—Whole mortality in proportion to the population—New York, 1-39.36. Baltimore, 1-39.17. Boston, 1-44.93. Philadelphia, 1-47.86.

Article 2 is a highly interesting case of hæmorrhagy from the parietes of a tubercular cavity, similar to those noticed by authors, as above. "Its lining membrane was covered apparently with engorged varicose vessels." The case is reported by Drs. Elkinton and Ashmead.

Such is the view which our time and space have allowed us to take of Dr. Morton's essay on Consumption. In summing up, we may say, without impropriety or hesitation, that the greatest fault of the work is that it is too *small*. It reminds us of the compliment paid by Byron to Campbell, that the latter was the only poet living in England of whom it could be complained that he had written *too little*. Dr. Morton has committed this rare fault; and the perusal of his work leaves us with a lively wish that he had written and published more. In saying this we mean to confer praise, but we likewise mean to convey censure. It is impossible that in a work of this size the various difficult and interesting questions which arise in connexion with the subject of tubercles could have justice done them. They are passed over with a haste beyond that with which the students of our country should contemplate these important subjects. At the same time, it may be that the industry and leisure of our countrymen are not adequate to the perusal, in large numbers, of the more extended works; and

volumes of the size of the present may be better suited to the demand. Whether this be the case or not, we decidedly wish Dr. Morton to enlarge his subsequent editions; nothing doubting that such will be called for; and he will then be able, not only to add new facts to his publication, but to enlarge, explain and develope various parts of what he has already inserted. We are confident that the public will welcome such an enlargement; and that the work, without denying imperfections, will be considered as an honourable and desirable acquisition to American pathology. B. H. C.

XIX. *Memoir of the Life, Writings, and Correspondence of* James Currie, M. D., F. R. S. of Liverpool, &c. Edited by his son, William Wallace Currie. In two vols. 8vo. London. 1831.

The very distinguished services rendered to medical science by the late Dr. Currie, his eminent literary talents, his elegant compositions, and the acute powers of criticism displayed by him, as well as the importance of his political writings, the elevated position he enjoyed in society, and the esteem and affection in which he was held by many of the most celebrated men, in useful and polite learning, who adorned during the latter part of the last and the commencement of the present centuries, the country of his birth and of his adoption, entitle him in every way to the high respect of the members of that profession of which he was undeniably one of the brightest ornaments. Influenced by this opinion, and presuming that such of the readers of this Journal as are aware of the merits of Dr. Currie as a medical philosopher and practitioner, will find pleasure in perusing a sketch of the events of his life, and an enumeration of his services in science and literature; while those who have not yet become familiar with these, will be gratified at being possessed of information on a subject of such deep interest; we have prepared a brief and condensed analysis of the two volumes of memoirs of the life, writings, and correspondence of that distinguished man, for which, as the title indicates, we are indebted to his son.

Prepared, as they are, for the press by one having access to the most correct sources of information, they must be considered as entitled to entire confidence, in regard, at least, to all the events and facts they record. But even had we not the reason of the close relationship of the author to the subject of these memoirs, to lead to the conclusion of the authentic nature of the information they contain, we would feel disposed to place reliance on their accuracy, and to form a favourable opinion of their merits, learning as we do, from a recent publication,* that they received the unqualified approbation of William Roscoe, long the intimate friend of Dr. Currie, and whose testimony, from this circumstance as well as from his great literary renown, must naturally be regarded as of great weight on a question of this nature.

Dr. James Currie, the subject of the present memoir, was descended from a race of Scottish borderers. He was the only son of a respectable clergyman, and was born at the manse of Kirkpatrick-Fleming, in Annandale, on the 31st of May, 1756. He received the rudiments of his education under his father's eye, at the parish school of the above-named place, and afterwards at that of Middlebie, in the same county, to which latter parish his father was translated, and of which he continued minister till his death.

* Life of W. Roscoe, Vol. II. pp. 310–11, Am. Ed.

"As a child, although his spirit was fearless and impetuous, and his admiration of military adventure and martial glory enthusiastic, he was retiring and thoughtful, fond of study, and preferring a solitary ramble by the river-side, or among the neighbouring woods, to the ordinary pursuits of children. The greater part of his eighth year he spent at Allerbeck, in the family of Mr. Irving, a friend and connexion of his father's; and there he appears to have imbibed a taste for natural scenery." In a manuscript account of himself, which, however he did not carry further than a few pages, he makes the following remarks.

"This place, (Allerbeck,) is beautifully situated among growing woods on the banks of the Kirtle, my parent stream; and there my taste for the beauties of nature first began to expand, and my memory became first impressed with those rural images, which associate so pleasingly with the recollections of infancy, and serve as a sort of solace under the cares and troubles of after life.

"In the neighbourhood of Allerbeck stands or stood in those days, the tower of the Blacket-house, a small border fortress belonging to the family of the Bells, and well known in the traditionary records of the border wars. It was uninhabited, at least by mortal beings, being partly in ruins; but was the residence of a bogle or brownie, a spirit well known in the history of Scottish superstitions, of whom many adventures were related. About half a mile or less above the house of Allerbeck, the river Kirtle has on its east bank a small and beautiful but sequestered holm, the bank immediately opposite rising to a considerable height, and at that time covered with a thick wood. On the top of this bank stood the tower of the Blacket-house, the residence of this demon. On the summer's evening I have sometimes lingered in the holm, gazing on the ruins of the tower above, in the expectation of seeing this aerial being; but though he was active in those days, and had appeared to many persons, I never had a glimpse of him. I heard him indeed, or was told I heard him, at times, felling timber, or seeming to do so, on the opposite bank in the night; and, though nothing seemed more distinct than the sound of the woodman's axe, and the crash of the falling trees, yet it was said the whole was delusion, for that in the morning no injury could be found. There were those, indeed, who held that these sounds were occasioned by real depredators on the wood, who carried off their plunder in the night, and who encouraged the belief of the noise being preternatural to prevent their robberies from being interrupted at the time, or particularly inquired into afterwards. The landlord was at a distance, and the tenants themselves were suspected to have a share in the plunder."

"These and other similar incidents made me early acquainted with the superstitions of the Scottish borders, a subject in which I have felt some interest, and which has been so amusingly treated by Mr. Walter Scott."

Young Currie remained until 1769, in which year he lost his mother, at the parish school of Middlebie, under different teachers, enjoying at the same time the advantage of his father's instructions, who was an excellent scholar, and a man of extensive reading, and much general information. During his mother's last illness he was removed to Dumfries, and placed under the care of Dr. Chapman, who, at that time, conducted the grammar-school of that place with reputation and success. The news of her death arrived there on the day of the annual examination of that institution, and was unintentionally communicated to him at the moment he was about to pronounce an oration before the presbytery and magistrates. For doing this, it naturally disqualified him. He remained in the house of Dr. Chapman some time after he had finished his course in the school, studying mathematics and some part of practical geometry.

"Of his companions at this school," his biographer remarks, "only one now

survives—Alexander Young, Esq. of Edinburgh, who in a recent letter to the editor, says, 'I am now the only survivor of four most intimate friends at Dumfries school and Edinburgh college. With Dr. William Charles Wells, Dr. George Bell, and myself, your father was always the greatest favourite, all the rest of us were somewhat precipitate and pugnacious, but your father was the peace maker, and the great cement of our mutual friendship, till he went to America; and most sincerely did I rejoice when he returned, and found his old friends at this University, where he soon surpassed us all, and became again the bond of peace and mutual union among us. My intimacy with and sincere regard and affection for him remained undiminished till the day of his death.' "

At the age of about fifteen he accompanied his father to Glasgow, and while in that city caught the spirit of enterprize common among his young countrymen. His original destination was the profession of medicine; but his father was induced to yield to his desire of going out to America in the service of some merchant. He accordingly embarked for Virginia, in 1771, and on his arrival, was established at Cabin point, a small settlement on James' river.

"This important step had a striking effect upon the formation of his future character. The period when it was taken was pregnant with mighty events, which called into action and improved every faculty of his youthful mind. Separated from his friends, deriving no advantages from the character and dispositions, or society of the individuals to whose charge he was, at that early age, intrusted; exposed at times to disappointments and difficulty, and even danger; and thrown into situations where he was compelled to act for himself, unsatisfied by the counsel or experience of others, his knowledge of mankind was speedily extended, his judgment matured, his power of decision strengthened, and his habit of self-command acquired."

During his residence in Virginia he frequently laboured under the ordinary diseases of the country, and especially suffered much from the intermittent fever. He soon found that his employment was uncongenial to his taste, and that his hopes of advancement were, to all appearances, not likely soon to be realised. When he had been two years in America, his father died, leaving a large family but ill provided for—a circumstance which added much to the anxiety which his own situation inspired. His feelings on this occasion, and a detail of the events of the period, were conveyed by him in numerous letters to some of his friends. These letters are published in the volumes before us, and will be read with interest, but they cannot be inserted in this brief notice. Notwithstanding the adverse circumstances under which Mr. Currie was then placed, he discharged his duty to his employers with undiminished attention. He thereby acquired their confidence and approbation, and in more tranquil times, as his biographer remarks, he might have pursued the mercantile profession with success.

"Habit had reconciled him to a spot where he had now made many friends, in whose society he was comparatively happy; and it appears that he was likely to form some connexions in business which held out the prospect of great advantage. But the storm approached, which was, in its course, to destroy the ordinary pursuits of life, and to render the colony an overwhelming scene of tumult and agitation, in the midst of which commercial success was remote, if not hopeless, and neutrality of conduct was impossible."

His letters during this period evince the light in which he contemplated the struggle, and from them it is found, that although he regarded the noble spec-

tacle of an infant nation "starting forth into independence with that strong interest which is congenial to every generous heart," the youthful attachments and prejudices of Currie were entirely British. He disapproved, however, of the arbitrary measures of the British authorities, and began to entertain serious ideas of returning home—sensible that all expectations of success in his commercial pursuits were at an end, and finding that "neither his feelings nor his judgment would allow him to take any part in the existing differences."

At the beginning of these troubles he had gone to reside with a near relation, Dr. James Currie, a distinguished physician of Richmond. While staying with this gentleman, he determined to change his line of life, and to adopt the profession of medicine. It was in consequence arranged that he should, as soon as possible, embark for Europe to pursue his studies in Edinburgh, and, after graduating, return to practice in the capital of Virginia.

"This resolution, previous to its being carried into effect, was the cause of involving him in multiplied difficulties, and of putting his life into danger; but in the most critical situations he displayed that judgment and decision which began to mark his character, and for which it was conspicuous in after life."

The circumstances attending his departure are given in a letter to the Rev. G. Duncan, written after Mr. Currie's return to Scotland; but the details are too long for insertion in this place. Let it suffice to state, that he embarked in September 1776, that after a passage of about six weeks he arrived at St. Eustatia, and that he immediately proceeded to Antigua. From thence he sailed for Europe, in February, 1777, and after touching at several islands in the way—Montserrat, Nevis, and St. Kitts, and putting in at Fayal, on account of the sinking condition of his vessel, he reached Deptford on the second of May following. After remaining a few weeks in London, he joined his aunt and sisters in Edinburgh, just as he had reached the age of twenty-one.

"From the time of his arrival in Edinburgh, until he took his degree, Mr. Currie was with few intervals, a constant resident at the University. In the winter following he entered on the study of medicine, to which his application was ardent and unremitting, although unfortunately interrupted for a time in the spring of 1778, by a severe rheumatic fever. Every hour not passed at the classes, or in attendance on the hospitals, was given to study and mental improvement. He became a member of the medical society, before which he read, (amongst other pieces exhibiting strong marks of ability and acute observation,) two separate papers on the effect of cold on the living body in health, its operation as inducing disease, and its influence as a remedy; by which he acquired considerable credit, and which prove that his attention was early directed to the subject of his subsequent work—the 'Medical Reports.' He was also an active member of the physical society, and of the speculative society, where his reputation for talents and eloquence as a speaker long survived his departure from college. His indefatigable industry as a medical student attracted the notice of the different professors; and amongst these he was distinguished by the flattering kindness of the illustrious Dr. Cullen."

Nor was Mr. Currie's attention directed to medical studies only. He succeeded, during this period of his life, in cultivating his taste for general literature, and gained an intimate knowledge of the best poets and historians in his own language. He applied himself also, with peculiar interest, to metaphysical studies, and became deeply versed in the theories of Berkeley, Locke, Hume, and Reid, and for some years the philosophy of the human mind was a favourite

subject for the exercise of his mental powers. "He seems too, at this time, to have paid great attention to composition, and the style of his letters and essays exhibit much of the accuracy and ease of expression for which his subsequent writings have been admired."

After the requisite period of attendance at the University and Hospital, Mr. Currie finished his medical education with honour and distinction, and was qualified, on graduation, to commence his professional career as a physician. Fearing, however, lest by sitting down to seek employment in that capacity he should continue for some time longer his dependence on those near relations, "whose generous assistance was ill proportioned to their means," he resolved to embrace the first opportunity which might offer to relieve them of expense on his account, and accordingly determined to seek a medical appointment in the army. He was nominated by General Sir William Erskine to be surgeon's mate in his own regiment, with the rank of ensign. Hearing, about this time, that it was the intention of government to form a medical staff in Jamaica, he became desirous of obtaining an appointment as physician to the expedition. As the latter was to sail in a few weeks, and the stated day for conferring degrees at the University of Edinburgh was some months distant, he repaired to Glasgow, where no such impediment existed, and there, after a compliance with the accustomed forms, received his diploma in April, 1780.

Dr. Currie enlisted much interest in support of his intended application, and proceeded to London provided with the recommendations and best wishes of the professors of the university and of many other friends. But upon his arrival in the metropolis, he found that the influence of the surgeon-general had procured the situation in question for another young physician of acknowledged merit. He determined, nevertheless, in pursuance of his intention upon quiting his friends, to proceed at all events to Jamaica, and endeavour to establish himself in practice in that island, from which he might, if unsuccessful, find many opportunities of passing over to Virginia. He took his passage, accordingly, in the fleet about to sail; but various delays occurred to prevent its departure, and were the cause of his spending a great part of the summer in London, where he extended his acquaintance among individuals of distinction in the literary world, as well as of eminence in his own profession. But although determined to prosecute his plan of going to Jamaica, he had not concealed from his friends his desire of remaining, if possible, in England.

"He wrote particularly to his near relation, Dr. James Currie, of Chester, who had been then some time settled in practice in that city, and who was commencing that eminent and successful professional career which has so greatly distinguished a long life of activity and usefulness. To his intimate college companion, Dr. Richard Worthington, of Wrexham, he also wrote; and from each of these zealous friends he received a pressing invitation to visit them, accompanied by earnest remonstrance against his going abroad, and by their opinion, that, with a proper opening, his success at home was by no means doubtful. Accepting their invitation, he repaired to Chester, and on his arrival there he learned that both Manchester and Liverpool presented favourable prospects for a young physician. After a short visit to the former place, he at once decided upon selecting Liverpool as the field of his practice; and accompanied by Dr. Currie, for the purpose of being personally introduced to the different friends of the latter, he established himself in that town in October, 1780."

Through the great exertions and kindness of Dr. Currie, who procured him numerous introductions, his acquaintance in Liverpool soon became very general, and although he was not at first pleased with the society of that city, as it then existed—finding, as he stated, the men shy in their manners, with ideas and opinions very different from those to which his college studies had accustomed him, and unrefined in their tastes and pleasures—he became gradually reconciled to the place, and soon gained the esteem and confidence of the inhabitants. His friend Dr. George Bell, a young physician of extraordinary talents and uncommon character, settled at Manchester, in March, 1781. This event promised to be a source of much happiness to Dr. Currie, and it was soon arranged that frequent meetings should take place between them at Warrington. These meetings were continued until interrupted by the untimely death of Dr. Bell. In April of the same year, (1781,) Dr. Currie was elected one of the physicians to the Dispensary—

"And though his unanimous election after only six months' residence in Liverpool is a proof of the zeal and activity of his friends, as well as of his own exertions, it must be allowed to be likewise an indication of the growing impression of the public in favour of his medical skill and character. A man endowed with mediocrity of talents might, indeed, succeed against a rival of greater abilities than himself, but it is not likely that such a man would be chosen entirely without opposition."

Dr. Currie became a member of several associations, and among these of two card clubs! and a bowling-green club; all of which he joined to extend his acquaintance, and conciliate the good feelings of the inhabitants among whom a taste for such amusements was very general. He belonged also to a weekly literary society. But, except the last, he attended none of these meetings regularly, being much occupied by his duties at the Dispensary and entering a good deal into general company.

"The reëstablishment of the literary society, which he was the principal means of reviving in a new form, and which held its first meeting at his lodgings, was a source of peculiar pleasure to him, as it gave an impulse to his literary pursuits, and brought him into acquaintance, subsequently ripened into friendship, with men whose names have contributed to confer a character on the town of Liverpool. Mr. Roscoe, Mr. Rathbone, the Rev. John Yates, Professor Smyth, (of Cambridge,) the Rev. W. Shephard, and other intelligent and estimable individuals were members of this society at its commencement, or in the course of its duration. On Dr. Currie's election as president, he delivered an address from the chair, on the objects of such societies and on the mode of best conducting their proceedings. This address he was requested to publish as a preface to the laws of the society, and he at first consented to do so, correcting it with that design, but from diffidence he afterwards abandoned his intention.

"The meetings of the literary society were continued for eight or nine years, but some time after the commencement of the French revolution, although it was a rule that no political subject should be discussed, it was thought prudent, owing to the heated state of the public mind produced by that event, that they should cease."

Towards the middle of the year 1781, the ravages of the small-pox engaged the attention of the medical profession in Liverpool. They were strongly in favour of a system of general inoculation, and Dr. Currie, who took an active interest in the measure, was appointed to draw up an address to the inhabitants.

Prosecuting with zeal the duties of his arduous profession, his success was equal to his deserts, and a few years residence in Liverpool firmly established his reputation for talents, and for those qualities which merit general esteem, while an intimate acquaintance procured him the confidence and affection of his friends.

In January, 1783, his happiness was increased, and his prospects of independence and professional success materially improved, by his marriage with the daughter of Mr. William Wallace, an Irish gentleman, established as a merchant in Liverpool, and who, as the biographer takes good care to inform his readers, was lineally descended, (as well as his wife, who was his cousin german,) from the Scottish hero of that name. The pleasures resulting from this event and from his success in his profession, was, however, destined to receive a check from a source little to have been anticipated. In January, 1784, Dr. Currie was called to Manchester to attend his friend Dr. Bell, who, after a rapid illness, which baffled the skill of his physicians, sank under his disease. The consequence of his travelling by night at a peculiarly severe season, and of exposure to the combined influence of agitation, loss of rest, and intense anxiety, was an alarming illness—"cough and spitting of blood, the attendants of pleurisy, and frequent precursors of consumption." By active depletion, the violence of his complaint was arrested, "but it left him in a state of debility that seemed, in his own mind, too clearly to forebode that he also should be a victim to consumption, in addition to those of his family who had died, or were dying, of this fatal disease." In compliance with the wishes of his friends, and more as a duty than from any sanguine expectation of benefit, he undertook a journey to Bristol.

"His recovery was for some time doubtful, and was retarded by many distressing causes operating on his spirits, at a time when his enfeebled frame could scarcely support existence. What contributed at length most essentially to the removal of his complaint was gentle exercise, chiefly on horseback. A very full account of his case, with his own observations upon it, and of the state of his mind when the issue was uncertain, was published in the *Zoonomia*, some years afterwards."

A short time after his return to Liverpool, he was requested by the members of the Manchester Philosophical Society, to write a memoir of Dr. Bell, accompanied by a translation of a thesis by the latter, on the physiology of plants, by which he acquired great credit in the University of Edinburgh. This painful task Dr. C. promised to undertake, and after a delay of a few months, occasioned by the feeble state of his health, he was enabled to complete it. "This memoir, which was Dr. Currie's first appearance publicly as an author, placed him at once in a high rank in point of literary composition." It was published in the second volume of the Transactions of the above-mentioned society, and is given in the appendix of the work before us. From his letters to his friends we find, that the state of Dr. Currie's health continued for a long time extremely uncertain, and that his progress towards recovery was slow and feeble.

Dr. Currie took an active part in the efforts made in the early part of the year 1787, and subsequently, by those who endeavoured to promote the abolition of the African slave trade, and partook of the feelings which animated the great majority of the British on this important subject. As the town of Liver-

pool was at that time, chiefly remarkable for the extent to which it was concerned in this traffic, his position was of extreme difficulty and delicacy. But Dr. Currie was not one of those enthusiasts and fanatics who were anxious to arrive at their ends, be the consequences what they might. He knew that many of those engaged in the trade were generous, affectionate, and humane in private life; liberal, enterprising, and intelligent in public; and it did not escape his observation that the general indignation against the *trade itself* was equally directed against the *individuals* concerned in it, without allowance for the circumstances in which they might be placed. "He abhorred the slave trade, but he was anxious that excess of enthusiasm and ardent feeling should not injure the cause." Under such impressions, but without communicating his intentions to any of his mercantile friends, he wrote a letter to Mr. Wilberforce, in which he enforced those views with much eloquence. This letter produced a friendly reply from Mr. W. and was the occasion of a correspondence at different intervals respecting the slave trade. By temperance in conduct and language, he contributed to advance the cause in Liverpool, and to aid the efforts of Mr. Roscoe, Mr. Rathbone, the Rev. John Yates, and many others of its distinguished advocates. He was a joint author, with Mr. Roscoe, of *The African*, a poem which appeared anonymously in the London papers of March, 1788, and which produced much sensation at the period.

In 1786, Dr. Currie was made one of the physicians to the Liverpool Infirmary—an institution which always received his most zealous support and attention. In 1789, a proposal was made to erect a Lunatic Asylum in connexion with the latter, and a public meeting of the subscribers unanimously recommended the adoption of the measure to the benevolent support of the public. On this occasion Dr. Currie took a leading part and published two letters in favour of the measure, which were much admired. The asylum was erected in 1790. Nor were his exertions restricted to matters of local interest. In the last-mentioned year, the dissenters throughout the kingdom made a general application to parliament for the repeal of those obnoxious laws, the corporation and test laws.

"Resolutions on the subject were passed unanimously by the dissenters of Liverpool, which were drawn up by Dr. Currie, whose friends and connexions lay very much among that body, and which were received with respect, even by those who were strongly opposed to the repeal. They were distinguished for the moderation of temper and language in which they were expressed."

"Among those friends whom Dr. Currie had the happiness to possess, there was none with whom he lived in habits of greater intimacy than Mr. Roscoe, or to whom he was more strongly attached. Their friendship was cemented by a common taste for literature and intellectual pursuits, and by the congeniality of their sentiments on many important subjects which affect the welfare of the human race. In after life, their names became associated in the literary world. Few strangers of eminence arrived at Liverpool without an introduction to Mr. Roscoe and Dr. Currie; and their houses were the resort of men of learning and celebrity from all quarters. In closest intimacy and friendship with them lived Mr. William Rathbone, a man, for whose generous ardour in the cause of civil and religious liberty, native eloquence, fearless vindication of the oppressed, public spirit, and extensive charity, they both felt equal respect and admiration."

In the year 1790, Mr. Roscoe and Dr. Currie commenced a series of essays

under the title of *The Recluse.* They appeared in the *Liverpool Weekly Herald*, but were not continued beyond twenty—the greater number of these being written by Mr. Roscoe. Two years after Dr. Currie took an interest in a very great public question, which engaged the attention of his fellow townsmen—the opening of the trade to India. On this occasion a public meeting unanimously adopted and passed a series of resolutions and petitions, which were drawn up by Dr. Currie.

"While Dr. Currie's talents were thus exerted out of the immediate sphere of his profession, his medical reputation was at the same time steadily increasing. In 1790 he had been elected a member of the London Medical Society, when he wrote a paper on Tetanus and Convulsive Disorders, which was published in their Transactions. And in the present year, (1792,) he was chosen a Fellow of the Royal Society and also of the Royal College of Physicians in Edinburgh. On the first of these occasions, he communicated a very curious 'Account of the Remarkable Effects of a Shipwreck,' which appeared in the Transactions of the learned body in question, and which contains the groundwork of his *Medical Reports* on the Affusion of Cold Water in Fever and other Disorders, which he subsequently gave to the world."

The author of the memoir before us remarks, that however disposed Dr. Currie was to devote himself to professional or literary pursuits, the period was now arrived when it was impossible for a man of keen sensibility and deep reflection, to exclude the impression of public events from his thoughts; and that for some time the attention of this gentleman was absorbed by the rapidly-passing occurrences in a neighbouring kingdom, and their probable consequences on the fortunes of England. When perseverance in the war with France had been determined upon, in opposition, as he conceived, to the true interests of his country, he published the celebrated letter from *Jasper Wilson* to Mr. Pitt, which appeared in June, 1793, and of which it is said ten thousand copies were sold.

"Its reception was, in many respects, much more favourable than the writer had expected. It acquired a degree of celebrity, indeed, which has distinguished it from all similar productions of that day, and which, however deserved and however honourable, was the source of much uneasiness to the author." "This letter was warmly admired by the opposition in parliament, and by all those who disapproved of the war; and its temper and spirit were spoken of with praise by many who disputed the author's conclusions. It rests on unquestionable authority, that soon after it came out, it was favourably mentioned by Mr. Pitt himself, particularly that part of it which gives a kind of analysis of revolutions. It was ascribed to various persons; and to Mr. Sheridan, amongst other distinguished leaders of the opposition. By some it was considered the production of more than one hand; but Dr. Currie was the sole author. Mr. Wilberforce alone was acquainted with his intention of publishing, who certainly was not a convert to his opinions, but respected his motives, and promised to keep his secret—an engagement which, as far as this gentleman was concerned, there is every reason to believe was fulfilled."

Dr. Currie gave a very strong proof of the effects produced upon his feelings by the political state of England at this period, in entertaining the idea—notwithstanding the high professional reputation and extensive practice he had obtained—the valuable friends and connexions he possessed, and the general respect and esteem he commanded, of quitting his country. To that effect he wrote, in July, 1793, to his kinsman in Virginia. But the idea seems

to have been transient; for in a letter to the same friend, dated little more than a year after, he says I shall stick to this country, whose government I venerate and respect, however much I have disapproved and deprecated the measures of its present administration. With the publication of Jasper Wilson commenced and ended Dr. C.'s political writings. He now endeavoured to withdraw his attention from public calamities "which he had foreseen, by which his feelings were deeply affected, but which it was out of his power to avert or alleviate," and began to carry into execution his intention of publishing the result of his professional experience in febrile diseases. "He had made considerable progress in doing so, when an event occurred, which, for a time, diverted his thoughts into a new channel, by which his literary reputation was some years afterwards widely extended." Allusion is here made to the death of the celebrated poet, Robert Burns, (which took place in July, 1796,) whose life Dr. C. undertook to write, so soon as his medical work should be finished and given to the world. The latter task was accomplished in the following year, (1797,) and the work appeared under the title of "Medical Reports on the effects of Water, cold and warm, as a Remedy in Fever and other Diseases, whether applied to the Surface of the Body or used Internally."

"The success and sale of this work were probably equal to those of any medical publication of the present or past times. To this several causes contributed;—the previous reputation of the author; the novelty of the practice recommended; the modesty and caution with which it was announced; and the almost entire absence of those technical expressions, by which medical works are generally rendered unintelligible to all but members of the profession. Dr. Currie has succeeded in an extraordinary manner, in clothing professional details in a distinctness of phraseology and elegance of style, combined with a degree of feeling which gave to the *Medical Reports* an interest far beyond what might be looked for in a publication of that nature. The simplicity and candour, too, with which the unfavourable results of the practice are given, tend strongly to gain the confidence of the reader; and altogether it may be doubted whether any improvement in medical science was ever presented to the world in a more attractive garb."

The author of the memoirs enters into some details on the practical merits of the Medical Reports. As, however, he is not himself a professional man, his observations cannot be regarded as of sufficient interest and value to be noticed in this place. Nor shall we undertake to present our own views on the subject, persuaded as we are that our readers are already acquainted with the method of practice advocated in the work in question, and regarding the latter as one of those publications which should be in the hands of every practising physician. In reference to it, therefore, we shall only observe, that to the *discovery* of the remedial effects of cold affusions, Dr. Currie could lay, and indeed laid, no claim. So early as 1768 it was introduced into the West Indies by Dr. William Wright, of Edinburgh, whose account of it was first published in the *London Medical Journal*, for 1786, and in 1791 a general statement of its advantages, by the late Dr. Brandreth, of Liverpool, (the friend and colleague of Dr. Currie,) was inserted in Duncan's Commentaries. The use of cold water in ardent fevers, internally and by immersion, was also, as the biographer properly remarks, common among the ancients; but affusion on the surface of the body, as a remedy in fevers, seems to have been unknown to them. To Dr. Wright, he

adds, with whose narrative the Medical Reports commence, must be ascribed the honour of having introduced the cold affusion into notice in modern times. But we undoubtedly owe to Dr. Currie *the first specific directions for its safe application.*

Dr. Currie now commenced the task of writing the life and editing the works of Burns, which, as has been stated, he had undertaken to do. After encountering many obstacles, arising from the difficulty of obtaining the necessary information—the whole of which is minutely detailed in the volumes before us, Dr. Currie completed his task, and the work made its appearance in May, 1800, nearly four years after the death of Burns, under the title of "The Works of Robert Burns; with an Account of his Life, and a Criticism on his Writings; to which are prefixed some Observations on the Character and Condition of the Scottish Peasantry;" in 4 vols. 8vo.

"The completion of his toilsome task was repaid by general admiration of the manner in which it had been executed; and the obtaining £ 1200 from the booksellers for the family of Burns, amply compensated for many a sleepless night and weary hour. Testimonies of approbation poured in from every quarter, and his literary reputation became not inferior to his character and name as a physician."

The family and intimate friends of Burns—those who may be supposed to have known him best and loved him most—expressed themselves perfectly satisfied; and at a time too, when, as the biographer remarks, the jealous sensibility of affection, assisted by the strength of comparatively recent recollections, must have naturally been strongly alive to any errors into which Dr. Currie might unconsciously have fallen. The work passed through four editions, of 2000 copies each, during the life-time of the author, and he died under the grateful impression that his benevolent exertions, and his disinterested sacrifice of time and health, had been crowned with entire success, and that the seal of public estimation had been affixed to his labours. How little did he anticipate that many years afterwards various admirers and biographers of Burns, (and among others his brother Gilbert Burns himself, whose letters in approval of the work are given in the memoirs before us,) would have appeared before the public, with the declared object of vindicating the memory of the poet from the exaggerations and misrepresentations affecting his character, which Dr. Currie is charged by them with having admitted into his life!!

Be this, however, as it may, the publication of this Life brought the author into epistolatory correspondence with many literary men of celebrity, and among these with Sir Walter Scott, who wrote to him respecting his intended work, the *Minstrelsy of the Scottish Border.* Lord Cullen, son of Dr. Cullen, applied to him for assistance in writing the life of his father; and after the battle of Alexandria, the manuscript journal of General Moore, who fell afterwards at Corunna, was offered to him, with a wish that he would write the history of the campaign of Egypt. But these and other applications, neither his health nor his time would allow him to comply with.

About this time, England being threatened with invasion by the French, a call of patriotism was made on the inhabitants of the whole kingdom. Public meetings were held, and at that which took place at Liverpool Dr. Currie took an active part, and was one of the committee appointed on the occasion. This,

however, did not prevent him from interfering energetically in behalf of the French prisoners, who had been deprived of a portion of their rations, and were left without sufficient clothing. By his proceedings in this matter, he incurred the undisguised displeasure of government. Dr. Currie took an active part, in conjunction with his friend Mr. Roscoe, in the establishment of the Athenæum. He took a strong interest in the formation and opening of the Botanic Garden; and in 1801 he had the gratification of proposing and carrying by acclamation, in general vestry, a resolution, imperative on the church wardens and parish committee, for the immediate erection of a House of Recovery, or Fever Wards, for the reception of the poor when labouring under fever.

"The period was now arrived when Dr. Currie might consider himself in possession of those blessings which are usually thought to make life desirable. To the full enjoyment of these, however, health, the first of blessings, was unfortunately wanting. His early illness, of which an account has been given, and which his youth had enabled him to surmount, left him still liable to a recurrence of those symptoms, to which his constitution was predisposed; and scarcely a winter passed, in which he was not visited by severe inflammatory attacks, attended by cough and difficulty of breathing, for which he found venesection the only effectual though debilitating remedy. Alluding to these in one of his letters about this time, he says—'I have a sister under my roof, dying of a consumption—a disease by which three others of my sisters have been carried off, and to which I think it very probable I myself shall fall a victim. Many are the attacks I have parried. Certainly, I combat with some skill, and with coolness, but I expect a thrust through the lungs one day or other.'"

He was induced in the summer of 1802, to undertake, for the benefit of his health, a journey to Burton, in company with his friend Captain Graham Moore, who had returned from sea in bad health. But the weather being cold, wet, and windy, he derived little benefit from the journey. In May, 1804, he visited Scotland, with the hope that a journey in the open air might be of benefit to his health. In a letter, dated June 19th, 1804, he remarks, that from the month of October till May, he lost by venesection two hundred ounces of blood, and took at least eleven ounces of tincture of digitalis; that he could not otherwise have lived; but that his langour and oppression were not to be told. For a short while, however, after his return from Scotland, his health continued such as to give his friends the hope that it had experienced considerable improvement—a feeling which was encouraged by the circumstance, that his general appearance did not always convey the idea of illness, even when he was far from well. In August he was sent for by express to Manchester, in consequence of the fatal illness of Dr. Percival, and although in delicate health made several hurried visits on this melancholy occasion.

"This was the second instance of Dr. Currie's being summoned to Manchester to the death-bed of a much-valued friend and distinguished member of his own profession. In each case his exertions were followed by an illness of the most serious nature." "The extreme hurry and agitation which had marked his journeys to see Dr. Percival, and the strong interest which he had felt where so valuable a life was concerned, combined to assail an already enfeebled frame. He was again taken ill, and threatened with symptoms which excited the lively apprehensions of his family. Indeed, he was himself strongly impressed with the belief that if he passed the ensuing winter in Liverpool, the consequences would, in all probability, prove fatal. The choice of a milder residence, therefore, became the subject of his frequent considerations."

Having taken the advice of his friends in reference to the most eligible spot within the kingdom,—for he decidedly refused to go to a foreign country, Dr. Currie at the close of November, 1804, went by slow journeys, and accompanied by his daughter, to Clifton, and after a few days rest proceeded to Bath, where he remained a month. Here he appears to have received some benefit; for in a letter of 19th December to his friend Mr. Roscoe, he states, that on the general subject of his health he can speak satisfactorily—that he was benefited by the journey, though he caught cold in the course of it; but that this cold was gone off, and that with it his cough had in great measure disappeared. He proposed to return to Liverpool early in January; but at that time he suffered a relapse, and was in consequence unfit for the journey. Not enjoying all the quiet at Bath which he found necessary, he went to Clifton, where he passed this and the following month; making occasional visits to Bath of a day or two at a time—a plan which was attended with temporary benefit. He now found, however, that he had derived so very little advantage from his absence from Liverpool, as to make it a matter of great doubt whether he ought, in prudence again to expose himself to a northern climate; and the necessity of giving up every other consideration to the chance of regaining health, induced him finally to determine on making Bath the place of his future residence. This was effected in March, 1805. His reception at that place had always proved highly gratifying. By the members of the profession in general, he had been met with courtesy and respect—by some, especially by Dr. Falconer and Dr. Haygarth with friendly cordiality; he had been well received—his acquaintance had been even courted by the best society, both resident and casual, with which that city abounds; and on settling permanently in that place, he found no diminution of that notice and attention, which might before have been the result of kindness to a transient visitor. He fell at once into an easy and extensive practice, "and had soon reason to believe, that if his health were only restored, he might expect any success in his profession, which it was possible for one man to attain." Dr. Currie seemed, for a short time, to be decidedly improved in health, but this state was not long maintained—his cough and oppression returned, and he suffered from want of rest. About this period of his life he composed an *Address to Sleep*, with the exception, as the biographer states, of the first stanza, which seems to have been written differently some years before.

"It is the only poetical production of his riper years, and was composed under circumstances, which would impart interest to a poem possessing even slighter claims to be admired."

Dr. Currie's intention was to pass the hot months away from Bath. His journey was delayed, however, for two months, principally by his desire to complete the fourth edition of the *Medical Reports*, which had been long called for by the booksellers. At length early in August he quitted Bath preparing to be away a month or six weeks, and intending to coast along the south of England as far as Dover. But he was not able to proceed further than Sidmouth, where he arrived on the eleventh. On this day he grew worse, and expressed his opinion to his son, that he should never leave that place. His symptoms were gradually aggravated, but till a week previous to his death, his mental powers retained all their vigour.

"Ten days before he died, he dictated to the writer an account of his poli-

tical life and opinions, which will be found in the appendix, and which closes with the following passages, added in his own hand-writing. This is intended as a defensive document to be used if rendered requisite by any attack on my character or memory. On any thing that respects my memoirs, including the affair with Chalmers, I wish my loved and excellent friend Mr. Roscoe to be consulted. If health and engagements, or feelings stand in the way, I shall be quite happy to suppose myself in the hands of Dr. Aiken. To this excellent friend my last blessings! and to theirs!

"I am sick and exhausted. I hope to close my eyes in peace with the living generation, and with hope in the expected union with the friends whom I venerate and love, beyond the grave. Should any memoir be thought requisite of me, let it be short, and delicate to others."

In the valley of the shadow of death—so, as we learn from the biographer, Dr. C. expressed himself, he declared, that he felt neither tremors nor fears at the thought of futurity, and after long and severe sufferings which he bore with characteristic firmness, and with a patience which he *thought* and *hoped* would be an example to his family, he breathed his last on the 31st of August, 1805, at the age of forty-nine years and three months.

"His disease proved an enlargement of the heart, with incipient ossification of its adjoining vessels, accompanied by extraordinary wasting and adhesion of the right lung."

"The cast of his mind was grave and energetic, tinged with a secret, pensive melancholy, partly no doubt proceeding from temperament, but possibly strengthened by the asperity of his early fate, and by the incidents of his profession, acting on a heart of great feeling. While in no respect incapacitated by this disposition from engaging in the active duties to which he was called, he was led by it to find a charm in the private circle superior to the attractions of general society, and to indulge in those intellectual pleasures which memory or imagination can bestow. He was not lavish of confidence or profession; but the few who had his confidence and regard, possessed both very unreservedly.

"From nature he received an understanding of the first order, which was improved by study, enlarged by early intercourse with the world, and matured by observation and reflection. His knowledge of human nature was profound, and was evinced by his skill in the analysis of individual character. His reach of intellect was equal to the discussion of the most abstruse and difficult subjects of metaphysics, politics, or morals, and his views were clear, comprehensive and acute. He possessed uncommon powers of conversation, illustrating each topic with singular clearness, and with great strength and happiness of expression; and he had so much candour, was so entirely free from prejudice, and was such a master of reasoning, that it was difficult to converse with him seriously without improvement."

It appears from a letter addressed by Dr. Currie to Dr. Wright, that it was his intention to write upon gout and on insanity. But ill health and his numerous avocations prevented him from accomplishing that task. This is the more to be regretted, as those diseases require elucidation, and to the investigation of them "he was peculiarly fitted by his philosophical spirit of inquiry and his accuracy of observation." L.

XX. *A Memoir on the Advantages and Practicability of d*
Strangulated Hernia, on the outside of the Sac. With C
C. Aston Key, Senior Surgeon to Guy's Hospital, and Lectu
&c. London, 1833. pp. 161.

Strangulated hernia is an accident much more rare in this country than in Europe, partly because of the facility with which the humblest of our fellow citizens obtain the necessaries and comforts of life, without that unremitted and overstrained exertion required in communities with more dense population, and partly because free air, proper exercise, and substantial food, are actually enjoyed by the poorest operatives, and even by the residents in most of our public charities; thus we are protected from many of the predisposing and exciting causes of hernia.

But this happy state of things cannot long continue. The rapid growth of our large cities, the competition among rival manufactures, the slavery of fashion and luxury on the one hand, and that of poverty and vice on the other, must speedily lessen our advantages, and every year's experience proves that hernia, in common with all the other consequences of relaxed fibre or hard labour is continually increasing in frequency.

The importance of the subject, and the very serious character of the operations occasionally required in this disease, has induced anatomists and surgeons to bestow unusual attention upon its history and treatment, so that it may be regarded with justice as one of those departments of professional investigation that approach most nearly to accuracy in principle and perfection in practice. Every fact or contrivance that may tend to improve the treatment of hernia, may therefore be considered as reflecting double lustre upon its discoverer or inventor, on account of its usefulness and its difficulty; and the work before us is not without some pretensions of this nature.

In our great centres of medical information, the cities that are the seats of universities, the general principles of practice in hernia are, we believe, well settled, and the principal addition to the stock of knowledge that the profession, in such situations, will receive from the little memoir of Mr. Key, consists chiefly in the details of a few interesting cases, and in some proposed and tested modifications of certain plans of operating already practised; but those large and highly respectable members of the profession, who have been for years removed to a distance from schools and libraries, and who are compelled to act with promptitude in cases few and far between, without the aid of extensive experience, or the means of consultation, will find the whole essay interesting as a fair investigation of a point that may be regarded as still open to discussion.

The memoir commences with a view of the alarming mortality following the old, or as it would appear from Mr. Key's statement, the more common mode of operating in strangulated hernia, that in which the sac is freely laid open and the intestine exposed. He gives a brief statement of thirteen fatal cases in the practice of Guy's Hospital, all occurring within a few years. Among them we notice several that, not to use too strong an expression, surprise us considerably; and more particularly the first case, in which no operation was performed. The

man, admitted for a venereal affection, was suddenly seized with indisposition, which on the second day assumed well-marked symptoms of ileus.

"The matter vomited became stercoraceous, *and the constipation could not be overcome by the remedies prescribed.* He died on the seventh day from the attack, without mentioning the existence of a hernia to *the apothecary* under whose treatment he was. On examination, a knuckle of the ileum, three inches in length, was found in an inguinal hernial sac, &c." p. 12.

Do such cases occur in Guy's Hospital? The remaining cases were all subjected to the peculiar operation mentioned above. In several of the patients, portions of intestine were left in the open sac for reasons that, as they are stated, are any thing but satisfactory. In one, *(Case II.)* the surgeon thought the bowel in a state approaching to gangrene, but after the death of the patient, from peritoneal inflammation, the prognosis does not appear to have been verified; in another, *(Case III.)* the operator found the intestine thickened, and suspected internal ulceration. The patient died in the same manner, and here again the autopsic examination proved him in error! Even if ulceration of the internal coat were proved to exist, would this circumstance generally warrant the permanent exposure of the part? We think not. In case seventh, the return was prevented by the distention of the abdomen. The intestine was very little changed in colour or texture. Enemata and purgatives produced copious feculent motions after the operation, but he died of local enteritis, without general peritonitis, on the second day. There is more apparent probability of the propriety or rather the necessity of the treatment in this than in the previous cases, but the experienced surgeon will feel some surprise at the impossibility of reduction in a case free from adhesion, or general intestinal disease, and permitting free evacuations to follow ordinary medicines. No attempt was made to relieve the distention by puncture.

In three of the cases the intestine was found sphacelated, and the propriety of opening the sac was therefore undeniable. In several others, the death of a portion or the whole of the strangulated fold, occurred subsequently to the reduction, and these cases would seem at first sight to militate against the propriety of dividing the stricture, and reducing the bowel without opening the sac. Our author, however, attributes these disasters to the exposure and handling of the parts after the opening of the sac. In one of the instances, the mortification is justly charged to the violence used in the reduction, and not to the peculiar nature of the operation. With one exception, the patients all fell under peritoneal inflammation.

Thus we see that of these thirteen cases, adduced in proof of the great danger resulting from the free exposure of the contents of a hernial sac, several have little bearing on the question; some, because their nature rendered that exposure absolutely necessary and perfectly proper; others, because the evils resulting from errors of practice are so combined with those depending upon the character of the operation that it is difficult to distinguish them. Yet facts enough remain to warrant the general deductions of the author, which follow at the conclusion of the series. He proves that none of these cases could have been injured by the division of the stricture without opening the sac, and that many of them would have been exposed to vastly less danger by such a procedure. He alludes to the great evils resulting in many instances from the undue

force employed in the taxis, which is generally pushed very far, before the surgeon is willing to resort to an operation so highly dangerous as that which is in common use, and thinks that the milder measures advocated in his essay, are calculated to remove the dread of the operation, and to prevent the desperate exertions often made to avoid its performance.

Mr. Key then proceeds to give us a short history of the operations for the reduction of strangulated hernia, in which the intestine is but slightly or not at all exposed. He quotes Garengeot's notice of Petit's operation for a femoral hernia, in 1712, in which he divided the stricture external to the sac, and then reduced the contents; and alludes to his after labours both in practising and defending the measure.

He next describes the two operations of Munro, and the four cases of that author, in three of which he operated in the manner of Petit, and in the fourth he was compelled to open the sac, because an unusual thickening of the neck of the sac occasioned a continuance of the stricture after the division of the tendon, by the other method.

We might congratulate ourselves upon the fact that even the errors of theory not unfrequently induce the extension of valuable practical discoveries, were it not that the passions of men, when once engaged in contention as to principles, lead them, too generally, into contemning alike the erroneous views of their antagonists, and the facts thus strangely ascertained, even after the latter have endured the test of experience. The very inaccurate notions of Munro, as to the stimulating properties of atmospheric air, led him to adopt the operation of Petit in those cases to which it is applicable, and also induced him to modify the usual method when circumstances compelled him to open the sac. Some of his opponents in the memorable debate on this subject, not content with exposing his mistakes, have condemned or decried the valuable surgical improvement founded upon them, regardless of the other and more just arguments by which it may be supported.

Mr. Key, in comparing the claims to originality of Munro and Petit, demands too much for the former writer. It is curious that he should assert, (at page 39,) that Petit advocated his peculiar method only in inguinal hernia, when the first operation of that surgeon, mentioned but ten pages before, was performed on a crural hernia! It is much more probable that Munro was the first to divide the stricture external to the sac, at the internal abdominal ring; this achievement, together with the plan more peculiarly his own, that of substituting a very narrow incision close to the seat of stricture, in the place of the former free incisions, when the opening of the sac is rendered necessary by peculiar circumstances, are a sufficient merit in themselves.

Mr. Key then notices two operations performed by Sir A. Cooper, without opening the sac; one on an inguinal hernia in 1803, the other on an umbilical hernia in 1807; also a third case of irreducible umbilical hernia, in which the same surgeon operated after the manner of Munro, by making a small orifice in the neck of the sac, into which he carried a probe-pointed bistoury, and dilated the stricture upward. After noticing the general direction of Boyer, that the sac should not be opened in large inguinal hernia, our author presents us with a glowing picture of the evils following the mode of free incision, extracted from an anonymous correspondent of the Edinburgh Journal for 1824—a

thorough disciple of Munro. We extract the first paragraph, because we have seen in one instance something that would almost warrant the description it contains, though we trust that but few practitioners in this country have witnessed precisely such a scene. We are, however, assured by Mr. Key, that "his account, though somewhat highly coloured, is true."

"The surgeon," says this correspondent, "divides the integuments by a wound several inches in length, and then proceeds by an incision of similar magnitude to lay open the sac. After the viscera thus unhallowedly exposed to the pernicious stimulus of a medium unusual to them, (viz. the atmospheric air,) have been felt, fingered, turned over, and examined *secundum artem*, the next step is to divide the stricture, which one might suppose to be the first object in view. The protruded bowels are at length reduced: but not until, in all probability, they have been brought into contact with a number of irritating substances, such as sponges applied to the wound, the fingers of the surgeon, or perhaps, even the sleeves of his coat. After all this, can it be wondered at, if abdominal inflammation comes on so often and kills the patient?" p. 43.

Certainly under such treatment there are causes enough of inflammation present, without the necessity of any irritating property in atmospheric air to determine its attack.

Mr. Key next proceeds with a very fair and candid statement of the advantages which result from avoiding the exposure of the contents of a hernial sac. In the course of his remarks he narrates several very interesting cases, and alludes to others, showing the diminished liability to peritoneal inflammation resulting from this mode of treatment, and glancing at others in which accidental hæmorrhages and other complications are productive of much less danger than would result from similar causes if the sac were opened. Then follows a statement of the objections raised against the operation of Petit, and the very able rejoinder of that author, together with a review of the opinions of some more recent surgeons. These objections are chiefly directed against the employment of the measures of Petit under certain circumstances, which even their advocates acknowledge require a different mode of treatment, but by a very common mode of reasoning the arguments against excepted cases are urged again and again against the use of the operation in all cases. The whole ground of the question is examined, and we think impartially, by our author. The peculiar instances in which it becomes necessary to open the sac are fairly stated, as are also those in which the integrity of the sac should be preserved. The pretensions of this mode of operating may be condensed into an aphorism, that were it not for the almost unaccountable opposition of some distinguished men, and the frequent resort to the old method where no symptoms appear to demand it, we should expect to see adopted as a postulate in every work on hernia. Whenever it would be desirable to effect the reduction of a hernial tumour by the taxis, *if possible*, the impossibility of the reduction by such means indicates the propriety of attempting it by the division of the stricture external to the sac. It is only when the possibility of reduction by taxis would fail in convincing the surgeon of its propriety, that the sac should be laid open.

Even in the cases in which rare accidents, such as thickening of the neck of the sac, stricture formed by omentum, bridles of adhesion, &c. render the operation advocated in this memoir ineligible, it is by no means constantly necessary to open the hernial cavity to a great extent. The only cases

invariably demanding free incisions are those in which the intestine has actually lost its vitality; in all others the operation of Monro is frequently preferable. If any further argument is necessary to convince the practitioner, that the operation of Petit has been too seldom performed, let it be remembered that the sac may be opened at any moment, if the progress of the operation developes a necessity for this measure.

The next subject which engages the attention of Mr. Key is the diagnosis of gangrene of the intestine, and his remarks are interesting, although they contribute nothing to the limited knowledge of the subject already familiar to the profession. At present, incipient gangrene cannot be detected with absolute certainty, but this is no argument against the operation of Petit for the majority of cases. There are well-marked symptoms, both local and constitutional, which lead to strong suspicion of the existence of gangrene; their presence renders the operation improper, their absence in like manner proves its propriety. Mr. Key considers the fœtor produced by transudation of the contents of the intestine, sometimes perceived after the completion of the external incision, as a positive proof of confirmed gangrene. It is unquestionably a sufficient reason for freely opening the sac, but we doubt its being an infallible indication of the death of the viscus. Such transudations are common in the rectum, giving to anal fistulæ and abscesses a stercoraceous smell, even when they do not communicate with the canal, and there is no reason why they should not take place, under similar circumstances, in hernia. We even think that we have perceived this smell in a sac containing a living portion of intestine.

Having thus examined the general grounds on which he advocates the operation of Petit, Mr. Key proceeds to give the results of his own experience.

His two first cases were inguinal hernia. Want of practice in the operation, and the imperfections of the common director, foiled him—he opened the sac in the first case by accident, and in the second by necessity. Both patients died of peritoneal inflammation. His third trial was made on an umbilical hernia and succeeded. Then follows three cases of femoral hernia, one of them complicated with consequent erysipelas, all terminating happily. He gives no other cases of inguinal hernia, and but one of omphalocele, which last was entirely successful under very disadvantageous circumstances.

His remarks upon the steps of the different operations are interesting and important. In the femoral hernia he dissects down on the neck of the sac, carrying his incision upward so as to expose the surface of the tendon covering the abdominal canal, which he enters by a very small incision made through the tendon just above the external ring; through this he passes his director downward, so as to ascertain if stricture exists there, and if so he dilates it from within by his bistoury. He then reverts the director, examines if there is stricture at the neck of the sac, and if so, he extends his incision in the canal until he exposes the lower edges of the muscles, in order to enable him to reach the stricture with ease, repasses his director and proceeds to dilate it. In umbilical hernia he generally lays bare the linea alba and the neck of the sac, exposing the latter as little as possible, makes a very small orifice in the tendons a little above the stricture, passes the director downward to the constricting edge, and thus divides it.

The director employed by Mr. Key is broader and more flat than usual, with a well-rounded point to prevent injury to the peritoneum.

The work is illustrated by three plates displaying the parts interested, and the position of the director, in the operations for the three principal classes of hernia.

In quitting the subject we have only to add that the style is plain and clear, and the facts stated interesting even to those whose minds are settled on all the controverted points advanced in the memoir. R. C.

XXI. *A Treatise on the Venereal Disease and its Varieties.* By William Wallace, M. R. I. A., &c. &c. &c., Surgeon to the Jervis street Infirmary, Dublin; and to the Infirmary established in that City for the Treatment of Cutaneous Diseases, including Venereal Diseases. London, 1833. oct. pp. 382.

In the preparation of this treatise, Dr. Wallace professes to have divested his mind of the shackles of authority, and to have investigated venereal affections *de novo*. He commenced this plan so long ago as 1819, when his opportunities of observation were extended by his election as surgeon to the Jervis street Infirmary in Dublin. He informs us that, during the earlier period of this investigation, a system of treatment least likely to interfere with the operations of nature, was as far as possible adopted, with the object of acquiring a knowledge of the natural history of the disease—the local applications being, in general, lint wet with water, and, when necessary to prevent evaporation, covered with oiled silk, or with a pledget of wax ointment. All constitutional remedies, except mild laxatives, were avoided, unless when the patient's safety required, from the supervention of alarming symptoms, more active measures; and these were then employed in conformity to the general principles of medicine and surgery, totally abstracting from consideration every idea of the disease possessing specific characters or requiring a specific course of treatment. After this practice had been pursued for a sufficient time to fulfil the objects in view, various other modes of treatment, suggested by previously acquired knowledge of the advantages and disadvantages of mercury, were tried. The results of these plans, as obtained by the author, are set forth in the treatise under notice.

Nothing shows more clearly the embarrassment existing in regard to the cause of venereal affections, than the extremely various opinions maintained upon the subject by pathologists. Thus, whilst some suppose that the variety of symptoms resulting from promiscuous intercourse, are so dissimilar as only to be accounted for by presuming the existence of a plurality of venereal poisons, each causing its own specific effects; many are of opinion that one specific virus is sufficient to induce to all the symptoms; others again maintain that there is no necessity for admitting the existence of even one distinct poison, the effects produced by common irritants or morbid secretions giving rise to the various symptoms, according to modifying influences of structure, and other natural or accidental circumstances.

Dr. Wallace disbelieves in the existence of distinct venereal poisons, but holds in the existence of one specific virus, which he maintains gives rise to results palpably different from those of ordinary morbid secretions or common ir-

ritants. In the maintenance of this doctrine, we think our author behind the times, and believe that his reasoning upon the subject will be found any thing but conclusive, except perhaps to the minds of those who are so biassed by long belief or prejudice, as to be incapable of estimating fairly any facts or arguments but those favouring their own opinions. We must do Dr. Wallace the justice, however, to say that he has treated this much-contested part of his subject with a great deal of moderation, if not candour; and with such qualifications we are rather surprised that he has not been led to different conclusions. His admissions, however, if turned against him, are, we think, quite sufficient to subvert his own position. For example—

"It must," says he, "be admitted, that when the surfaces of the genital organs are irritated by mechanical causes, or by secretions which do not contain any specific virus, certain morbid discharges or ulcerations sometimes ensue, which cannot be distinguished, without great difficulty, from the supposed effects of the venereal virus; and perhaps on some occasions there does not exist any character cognizable by us, from which to arrive at a clear diagnosis between the effects of the venereal poison and the effects of common irritation. The question then arises, are the effects which result from the influence of common causes of irritation essentially the same as those produced by secretions, in which we presume the syphilitic virus to exist?"

We answer yes, and view his arguments to prove that there exist certain diagnostic signs by which an accurate observer will be enabled to discover marks of distinction between the primary or secondary symptoms produced by common irritants or acrid discharges from the diseased or irritated surfaces of the genital organs, as altogether inconclusive. The acuteness of Hunter failed in establishing a criterion between what have been styled the true and the spurious forms of syphilis; and from this author to Dr. Wallace, none has been established that will bear the test of experience. The reason is that there is no essential difference between the effects produced by a morbid secretion from the irritated, inflamed, or ulcerated venereal organs, and those of common irritants. Truly do we believe our author when he asserts, after a fruitless investigation into the diagnosis of primary syphilis—

"It thus appears, that neither the mode of origin, nor the form, nor the colour, nor the size, nor the number of the ulcers of primary syphilis are pathognomonic."

Our views upon this point have, however, been already expressed at some length in former volumes of this work, to which we beg leave to refer such as feel any curiosity or interest in the subject.*

The very rational views which Dr. Wallace furnishes in relation to the treatment adapted to the first stages of syphilis, furnish, we think, additional evidences of the identity of the symptoms arising from the various sources of irritation and inflammation.

"It may," says he, "be laid down as a general rule, that the prevention of inflammation and its consequences of morbid sensibility, and of indolent action, is to be anxiously kept in view during every stage of primary syphilis; for if any of these morbid states be produced, the case is thereby complicated, and the difficulty of treatment greatly increased."

* See the 1st and 2d Vols. of this Journal for 1827, Review of Richond on the Non-existence of the Venereal Virus.

"It is well known, that a certain degree of over-excitement, whether local or constitutional, will cause in one person violent inflammation, its concomitants and consequences; and that the same degree of excitement in a different person may produce morbid sensibility or irritability; while, under other circumstances, or in other habits, indolent action and induration, &c. &c. may ensue."

"If, therefore, undue excitement, either local or constitutional, may cause those morbid actions which retard or oppose the cure of primary syphilis, and complicate the indications of treatment, it follows, that, during every stage of the disease, great attention should be directed to guard against its occurrence. Indeed, if this all-important principle were carefully acted upon, the disease would, in a vast number of cases, speedily cicatrize without the interference of art. In fact, the closest attention to the great principle of preventing undue or inappropriate excitement, should not cease from the commencement of the treatment, until the disease has been brought to a conclusion. Whatever may be the remedies which he is using, the practitioner should be always on the watch—ever fearing the possible occurrence of unfavourable actions; and the moment he remarks those minute changes, which point out or foretell the approach of any deviation from the natural characters or progress of the disease, he should pause, and reflect on their cause. In short, he should then modify his treatment, or change it altogether. For it is inaccurately observing the very commencement of these changes, and in immediately altering the treatment accordingly, that the skill of the practitioner will be particularly exhibited; and it is the want of this observation, and a blind perseverance in a plan of treatment no longer suited to the individual case, which has led to so many revolutions in practice, and has frequently caused the most dreadful consequences to result from primary syphilis, which had commenced with the mildest characters."

"Gentleness in handling, unirritating applications, cleanliness, rest and position, the judicious regulation of regimen, and protection from vicissitudes or intemperance of atmosphere, are the measures for preventing, in constitutions otherwise healthy, this undue excitement." p. 89–90.

But we differ from Dr. Wallace entirely in regard to the advantage of the practice of *snipping off* the diseased structure, &c. as recommended in the following passage.

"As we seldom have an opportunity of observing primary syphilis before the stage of ulceration, we need scarcely consider the treatment which should be adopted earlier than this period. If, however, a case presents itself during the first stage, and while the part is only in a state of circumscribed phlogosis, the diseased structure may without hesitation be snipped off, the wound allowed to heal, and for security against secondary symptoms, the patient should be treated constitutionally, as if he had not applied until the disease was more advanced."

This practice we think decidedly at variance with his very just position, that the sooner the primary ulcer is healed the sooner the risk of several serious consequences both local and constitutional will be removed.

In his general treatment our author professes himself a limited mercurialist. His views with regard to this once considered indispensable mineral agent, may be gathered from the following passage.

"Perhaps there does not exist in the materia medica any agent entitled to the denomination of a specific, in the sense in which mercury was formerly considered a specific for the venereal disease; for there is no remedy which is capable under every circumstance of curing any given disease. Sulphur will not necessarily remove scabies; nor will bark necessarily remove ague. There often exist controlling circumstances to prevent the sanative influence of both the former and the latter. But do we on this account deny their specific influence

in these diseases? or, in other words, do we deny that the actions produced by the influence of these remedies have a remarkable efficacy in subduing or removing the morbid states just mentioned? Certainly not. We still consider them as specifics; or, in other words, as powerful means of controlling or removing certain diseases; and we endeavour by patient inquiry and by accurate observation, to discover the circumstances under which they do not exercise their beneficial influence. Precisely similar views should regulate our conduct in the employment of mercury for the treatment of venereal diseases. Its beneficial operation on many occasions cannot be doubted, its injurious influence on others is equally certain; and it is our duty to administer it in the former, and to refrain from it in the latter. We must learn when to use it, and when to refrain from its use. In this consists, if not the whole, at least the principal difficulty in the treatment of the venereal disease; and it is this knowledge which distinguishes the pathologist from the empiric." p. 104.

And again—

"On the whole, while I admit the important results which have sprung from modern inquiries respecting the venereal disease, and the action of mercury, and feel sincerely grateful for the addition thereby made to our knowledge, and particularly as to the determination of the question of the general curability of venereal diseases without mercury, I must express my conviction, that much mischief has arisen from the general cry raised against this medicine, and from the vacillating and unsteady practice to which this injudicious clamour has led. These modern prejudices are now however ceasing, not gradually but rapidly; and I have no doubt that ere long a middle course of practice will be universally adopted; and that the evils of the old mercurial, and of the more modern anti-mercurial practice will be equally avoided, and a rational system of treating the venereal disease adopted in their place—founded upon a knowledge of the facts, that mercury, if properly administered, is in a great number of cases highly efficacious in controlling the venereal disease, or that form of morbid action which is produced by the influence of the venereal poison; that this disease may however be in general cured, if necessary, without mercury; and that on some rare occasions, this remedy, in place of curing syphilis, will aggravate all its symptoms. In short, with these facts, which have been satisfactorily ascertained by modern researches, and which are now placed before our eyes, we shall no longer be in danger of employing mercury, when more mischief than good may result from its employment; nor of persevering in its use, when it can no longer serve any good purpose, but may produce the most injurious consequences. We have however much still to learn; and it is the duty of every practitioner, who possesses opportunities, to take advantage of them, and endeavour to arrive at fixed rules of conduct in respect to many points as yet unsettled."

The great lesson to learn may, we think, be comprised in very few words; namely, to treat syphilitic affections upon the same general principles applicable to other diseases, without any reference to a specific cause, but with proper regard to the modifying influence of structure and other peculiarities connected with the organization. And with respect to the application of mercurials either externally or internally, let this be done without any view as to their specific powers to controul one disease, but merely as agents useful in most chronic disorders when judiciously applied.

We have not sufficient space left us to speak of all the local means resorted to by Dr. Wallace for the treatment of primary syphilis. No new application is however recommended by him, as he has very sensibly concluded that more depends upon the judicious employment of ordinary remedies, than upon trials of new ones. In dispensary practice, and among the lower ranks of society,

Dr. Wallace very properly observes that the internal use of mercury, particularly at inclement seasons of the year, can seldom be safely recommended.

"In such persons," says he, "and under such circumstances, topical applications are of infinite value. In cases of this kind, I generally confine my treatment to them, in conjunction with the internal use of nitrous acid; and by these means, I succeed for the most part in healing the disease with rapidity. Cases treated in this way are also very seldom followed by secondary symptoms."

We not only acceed to the practical views of Dr. Wallace, given in the following extract, but believe that the beneficial effects of the general treatment are frequently if not always attributable to such treatment, rather than the subsequent mercurial course to which they are so often ascribed.

"It is, in fact," says he, "an occurrence of every day to observe cases of primary syphilis, the inflammation or other adventitious morbid actions of which could have been easily subdued by a purge, a poultice, and a day or two of rest and abstinence, and thus prepared for a simple course of treatment, so irritated by inappropriate applications, that the inflammation, &c. soon becomes greatly increased, and consequences ensue, which lead to other consequences, the termination of which we cannot foresee."

"It is, therefore, scarcely necessary to observe, that, whenever a patient applies for our advice, if the disease, although regular in all its other characters, be accompanied by a greater degree of inflammation or irritation than is inseparable from it in its simplest form, we must pause for a day, and by appropriate measures bring the part and system into a state of tranquility. By a delay for this purpose, we shall not lose, but on the contrary gain time. Indeed, in the majority of cases of even the most simple and regular forms of primary syphilis, I employ the first day in purging my patient actively; and if he be of a plethoric habit or sanguineous temperament, I direct that from twelve to eighteen ounces of blood shall be taken from his arm. No inconvenience can result from this practice; and on very many occasions, it will not only prevent future mischief, but also contribute greatly to the more satisfactory action of all the remedies afterwards employed. There can, in fact, be no doubt that the abstraction of blood in healthy constitutions eminently promotes the salutary influence of mercury, and also keeps in subjection that inflammation or phlogosis which is necessarily attendant on the actions of reparation, but which, if allowed to exceed an appropriate degree, not only retards these actions, but may lead to their total suppression."

The rule we would lay down for the use of mercurial remedies is, never to employ them so long as antiphlogistic means are called for; as their operation must always be injurious unless when resorted to in the chronic stages after the subsidence of all general inflammatory action.

Dr. Wallace has given a strong evidence of the minuteness with which he has carried his observations into this disease, in his classification of what he terms phagedenic primary syphilis. The order he at first adopts is as follows:—

1.	2.	3.
Without slough.	*With white slough.*	*With black slough.*
A. Simple.	A. Simple.	A. Simple.
B. Inflamed.	B. Inflamed.	B. Inflamed.
C. Irritable.	C. Irritable.	C. Irritable.

Each of these orders is again distributed into varieties and sub-varieties, a

minuteness of division, the advantages of which are, to say the least, equivocal. Indeed, the author's own words bear us out in this position.

"In conclusion," says he, "the attentive reader will have observed, during his perusal of the preceding account of the symptoms and treatment of phagedenic primary syphilis, that there exists a striking analogy between the corresponding varieties of all the species. Thus, all the simple varieties resemble one another, all the inflamed varieties are in some respects strikingly similar, and there exists a remarkable analogy among all the irritable varieties. Hence we might adopt the characters according to which the varieties are distinguished from each other, or the state of inflammation and irritability, &c. as the basis for distinguishing the species."

Dr. Wallace's chapter upon the phagedenic form of syphilis is exceedingly rich in practical information. Indeed, we may say the same of most or all of the other chapters of his book, which, however, notwithstanding the restrictions introduced in regard to the use of mercury, are, we think, still too highly charged with that mineral.

We approve highly of Dr. W.'s adoption of the term *catarrhal primary syphilis*, as a substitute to the ordinary terms gonorrhœa, blenorrhœa, &c. as it expresses that semblance between the discharge from the mucous tissue of the urethra and that of other passages, which we believe to subsist, denoting at the same time the primary characteristics of the disease. But it is impossible for us on the present occasion to mark all that we approve, or note what we would feel disposed to condemn. Among the latter, however, we cannot pass over the practice of administering mercury in the catarrhal forms of syphilis, although exhibited in what our author terms "small doses." The small doses mentioned as sufficient "to protect the constitution from contamination," consist of about five grains of the blue pill with one-fourth of a grain of opium, *twice* a day, morning and night, seldom continued longer than two or three weeks. We totally disagree with him in all the reasoning he has brought to sustain his point of the necessity of mercury, and especially in his fifth and last, which runs in the following words: viz.—

"If mercury does not serve any useful purpose in the treatment of catarrhal syphilis, it can do no harm if properly administered, nor will it interfere with the administration of any other remedies."

We venture to assert that other parts of his ordinary practice in catarrhal syphilis, will also be regarded as exceptionable by the most judicious practitioners. We refer to his use of stimulants and tonics, as we think, in too liberal doses, or at too early a stage. So far as our observation extends, the most mischievous consequences attend a practice of this kind, notwithstanding the striking success which sometimes follow it.

The volume which we have thus cursorily noticed is the first part of a work, the succeeding portion or portions of which are to follow as quickly as possible. It is, however, complete in itself and independent of those which are to follow. In addition to the letter-press, the author promises a series of delineations illustrative of his views, to be "executed in such a manner as truly to represent nature." The ample extracts we have made, will, we think, convince the reader that Dr. Wallace's treatise contains much valuable information.

G. E.

XXII. *On Some Points connected with the Anatomy and Surgery of Inguinal and Femoral Herniæ, &c.* By G. J. Guthrie, F. R. S. &c. Quarto, p. 44. Illustrated by three plates.

Mr. Guthrie is among the most distinguished surgeons of the British capital, and is well known on this side of the Atlantic through his various works. The principal object of the author, in the present publication, seems to be to establish the point, that the internal abdominal ring is a muscular orifice, being surrounded entirely by the transversalis muscle, that is to say, having fasciculi of this muscle bounding both its superior and inferior margin. Mr. Guthrie, however, does not state this to be universally the fact, but only an occasional occurrence, which will account for some of the phenomena of hernia, and also for the diversity of treatment recommended by surgeons. Judging from our own observations, after frequent and attentive dissections of the part on subjects where the muscular system was well developed, we are disposed to believe that the fact alluded to by Mr. Guthrie is very far from a normal condition, but is one of those deviations of the muscular system so well known to the practical anatomist. Mr. Guthrie observes that the transversalis does not, in the generality of instances, send its inferior margin below the spermatic cord in so marked a manner as he found in his dissection at Surgeon's Hall, but he is of opinion, that the corresponding part of the muscle is mostly tendinous, and adheres all along to Poupart's ligament. We beg leave to differ from him in this respect, such an arrangement would be extremely unusual. The transversalis is, on the contrary, much disposed to stop from one to three inches above the internal abdominal ring, and especially where the inferior section of the internal oblique is very thick. As Mr. Guthrie's observations seem to have been limited to a single subject, where the internal abdominal ring was muscular, or rather formed in the transversalis muscle, the comparative frequency of this arrangement is a very fair subject of inquiry, it may possibly occur oftener than is supposed. Moreover, the disposition of fibrous tissue under circumstances of extension, as in the uterus and round ligaments thereof, to evolve muscular tissue may be exhibited in the fascia transversalis in many cases of inguinal hernia; this inquiry, fully sustained by dissections of persons dead with inguinal hernia, would contribute much to elucidate the point at issue between Mr. Guthrie and other anatomists, and would be a subject worthy of his known zeal and talents.

Mr. G. gives, or rather acquiesces in, a number of excellent practical rules for the treatment of strangulated hernia, and seems to be a decided advocate for early operations, where ordinary means fail. He says that he is quite satisfied, that it is better to operate half an hour too soon, than ten minutes after the time of absolute necessity.

We were struck with the fact, that in this paper which is highly creditable to Mr. G.'s spirit of research, both into authority and nature, he should have overlooked, in the midst of quotations from continental and English writers, our friend, Abraham Colles, Esq. of Dublin, who, in his very unpretending little volume of surgical anatomy, has defined the arrangement of the fasciæ and muscles about the pelvis with an accuracy, precision, and succinctness, seldom equalled. Sir Astley Cooper and Mr. Colles together, have done great honour

to British anatomy and surgery on this head, so as to leave but very little more to be desired; additional descriptions, elaborated upon their text, have heretofore, we must say, contributed feebly to the understanding of the subject, and in the case of one not familiar with it are for the most part unintelligible.

Mr. Guthrie has furnished a new idea on the use of the gubernaculum testis, to wit, that of keeping a passage open for the descent of the testicle, which passage would otherwise be closed. He rejects the notion of the gubernaculum drawing the testicle into the scrotum. He says—

"I believe that the testicle descends or ascends, as the case may be, at the proper period, for the same reason that a child is usually born at nine months in preference to any other period of utero-gestation, which is, as Avicenna says, by the will of God."

In rendering profound homage to a supreme and final cause, we shall not disagree with him on the influence of the latter, to which all actions of the system must be referred, but we doubt the accuracy of the statement as representing the quo modo. The observations of the late John Hunter, on the descent of the testicle, have elucidated and explained this point very satisfactorily, and in regard to the expulsion of the fœtus, we think the quo modo can also be got at there by remembering that the decidua in the larger animals is a membrane furnished with large blood-vessels, which are closed and become fibrous cords preparatory to the final term of gestation, and that this closure renders the decidua a sort of effete membrane, the expulsion of which is rendered necessary for the same reason, that the deciduous teeth are thrown off from an infant's mouth when their blood-vessels are obliterated. We may also remark that the will of our Creator is so omnipotent an agency, that it stands as little in need of the gubernaculum testis to keep a passage open for the testis, as it does to draw the testicle into the scrotum, so that our author's theory is fallible even in that respect.

We must not omit to notice the beauty and fidelity of the plates in this memoir, and the neatness of its typographical execution.

Mr. Guthrie's work is, upon the whole, well worthy of perusal, and highly creditable to him; and by the foregoing remarks, we merely intend to signalise the difference between his views and those entertained on this side of the Atlantic. W. E. H.

XXIII. *Manual of Practical Toxicology; condensed from Dr. Christison's Treatise on Poisons. With Notes and Additions.* By J. T. Ducatel, M. D., Professor of Chemistry and Pharmacy in the University of Maryland, &c. &c. Baltimore, 1833, pp. 341, 12mo.

Although we would have much preferred that Dr. Ducatel should have given an American edition of Dr. Christison's unrivalled work in an entire form, with the notes and additions he has subjoined to the present condensation of it, we feel that in the state of apathy which exists among the medical profession with regard to medical jurisprudence, he has adopted the wiser plan, but we sincerely hope that a time may soon arrive when the importance of this branch of science will be fully appreciated, and that the talents and acquaintance with the subject which Dr. Ducatel has displayed in this little volume may have a wider field of action.

The present manual is, in a great measure, an abridgment of Dr. Christison's great work on the poisons, altered, however, so as to render it of a more elementary character, and at the same time to present a cheap and portable volume, which should contain the most important facts relating to poisonous agents and their influence on man. To accomplish this, Dr. Ducatel has omitted all those portions of the original work which related to the chemical history and the tests for the various poisons, and in short all those parts which are not of direct avail to the practitioner when called to attend a person labouring under the effects of a poison.

Some judicious changes have been made in the classification, or rather in the arrangement of the work; thus the matter is distributed into chapters, sections, sub sections, and paragraphs, which latter are numbered, to facilitate a ready reference to any particular subject. Dr. Ducatel has also given some very valuable notes and additions; these include references to the chief pharmaceutical and artificial preparations containing ingredients ranked among the poisons; fuller accounts of the mode of treatment for several poisons, principally as regards the chemical treatment by antidotes; descriptions of the botanical characters of the poisonous families of plants, and some additional facts concerning the singularly corrosive effects of chromic acid, and the poisonous properties of its salts.

As may be judged from what has already been said, we are much pleased with the work, and can confidently recommend it in the highest terms to the student or practitioner who wishes for general information on the poisons and their effects, as well as the means of remedying these effects. But this is all, for as all notice of the means of detecting the presence of poisonous articles and of identifying them is omitted, whoever appeals to it as a guide through the numerous difficulties which environ this part of medical jurisprudence will be wofully disappointed. This very circumstance, however, will, we trust, induce such a demand for the original work, as to induce its republication.

It is not our intention to enter into an examination of the contents of Dr. Ducatel's manual in detail; we, however, noted two or three points in which we think he has been led into error. Thus, in a note to page 247, he says, "Anthracite coal yields while burning, nothing but carbonic oxide and carbonic acid." Any one that has paid attention to the subject, must know that all varieties of this coal give off carbureted hydrogen, and also that the flame indicates by its colours that there is an admixture of foreign substances, as sulphur, copper, &c. in solution in the gas or in the form of vapour.

Page 227. "Dr. Macleod thrice had occasion to remark this, (salivation,) in patients, who had been using the acid for about a fortnight, and twice in one individual, and Dr. Granville says he had also twice witnessed the same effect. Nevertheless, it is suspected that salivation in these cases had been brought about by the use of an impure acid, containing probably a small quantity of the deutochloride of mercury, particularly if the acid had been prepared according to the process of the Dublin College. In fact, we are informed by our colleague, Dr. E. Geddings, that in other cases, where salivation has likewise been produced apparently by the use of hydrocyanic acid, mercury was actually discovered in the acid by Sylvester's test."

Even granting that mercury be present, which, by the way, would show great negligence in the manufacturer, the quantity would be but small, and when it

is recollected that the acid is given only in doses of a few drops, we can scarcely credit that the mercury would have any effect, without admitting, with the disciples of Hahnemann, that the powers of remedies increase in proportion to their dilution.

Again, in note to page 254, "down to some of the solanum genus, the leaves of which are used as kitchen herbs." Which of the solanums furnishes edible leaves? We are unacquainted with such a species, though we do not deny the fact.

We also notice some typographical errors, not, however, of sufficient importance to require our pointing them out. R. E. G.

XXIV. *Baltimore Medical and Surgical Journal and Review.* Edited by E. Geddings, M. D. Professor of Anatomy and Physiology in the University of Maryland, &c. No. 1. October, 1833.

Were it not that it might seem ungracious, in noticing the first appearance of a fellow labourer in the fields of medical science, we should be strongly disposed to question the wants of the profession in this country, requiring that there should be brought "forward a new periodical while so many already exist devoted to the interests of medical science;" and attempt to demonstrate, that what is really demanded is not an increase in the channels of information or of the institutions for instruction, but the improvement of those existing—not multiplication but concentration—consolidation. These, we are sensible, are far from being the sentiments on this subject most generally entertained, and as it has been thought expedient by the professors of a college in a neighbouring city, to bring forward a new periodical, we sincerely congratulate the profession that the conducting of it has been entrusted to such able hands as those of our esteemed friend and former collaborator, Professor Geddings. Dr. G. is well known to our readers by his valuable contributions to this Journal, and the first number of his own Journal exhibits evidence that he retains all the zeal, industry, and abilities for which he has hitherto been so conspicuous. The plan of the Baltimore Journal is precisely similar to our own, which we take to be as an acknowledgment of its being the best and therefore to be an especial compliment.

The number before us, (No. 1,) contains six original articles, one by the editor, a very erudite essay on Follicular Gastro-enteritis. The other articles are on Fractures of the Thigh and Leg, by Professor Smith; on Several Cases of Doubtful Suicide or Homicide recorded in History, by Professor T. R. Beck; on Poisoning with the Preparations of Chrome, by Professor Ducatel; on Cholera Infantum, by Professor Potter; a Case of Aneurism of the Right Subclavian Artery, in which a Ligature was Applied to the Arteria Innominata, by Professor Hall. There are, besides, several original communications of American intelligence. Our limits will not permit us to notice these articles more particularly here, but we shall hereafter present a condensed summary of those which will admit of it in another department of the Journal.

XXV. *Recueil de Mémoires sur le Typhus Nautique, ou Fièvre Jaune, Provenant principalement de l'infection des Batimens Négriers.* Par M. Audouard, D. M. M. Envoyé à Barcelone en 1821, et au Port du Passage en 1823, par S. E. le Ministre de la Guerre, à l'occasion de la Fièvre Jaune.

This Collection consists of six memoirs, the first is entitled "Relation Historique de la Fièvre Jaune qui a régné au Port-du-Passage en 1823;" the second, "Considérations sur l'Origine et les Causes de la Fièvre Jaune, d'après l'observation de cette Maladie a Barcelone en 1821, et au Port-du-Passage en 1823;" the third, "Considérations Hygiéniques sur le Typhus Nautique ou Fièvre Jaune, provenant principalement de l'infection des Batimens Négriers;" the fourth, "Aperçus Généraux sur l'Infection et la Contagion dans la Peste et la Fièvre Jaune;" the fifth, "Examen Critique des opinions qui ont Régné sur l'Origine et les Causes de la Fièvre Jaune;" and the sixth, "Discours sur la Fièvre Jaune, a l'occasion des Documents de M. le Dr. Chervin sur cette Maladie, et du Rapport auquel ils ont donné lieu a l'Académie Royale de Médecine de Paris, le 15 Mai, 1827." The principal object of the author in these memoirs, is to prove that yellow fever is produced by an infection which is peculiar to slave ships, and that the disease is contagious. While we are far from yielding our assent to the truth of these propositions, it is but justice to Dr. Audouard, who we are informed is a highly respectable physician, to state that he has shown great zeal and industry in the investigation of the subject, and has collected several interesting facts, some of which appear to afford a degree of countenance to his views.

In the introduction to these memoirs, Dr. A. states that "yellow fever consists in a morbid modification of the mucous membranes, from which hæmorrhage results," and "that the bile played no part in this disease." This view of the pathology of yellow fever was first published by him in 1822, in his historical and medical account of the yellow fever which prevailed at Barcelona in 1821. We cannot refrain from expressing our surprise that Dr. A. should assert that no one previously to himself had expressed such views—views which, as is well known, were maintained and published in this country upwards of a quarter of a century previously, by Physick, Cathrall, Miller, &c.

The subject of yellow fever has lost so much of its interest, that it would not be expedient to enter particularly into the consideration of Dr. A.'s work. It is worthy the attention of those, however, who have any curiosity relative to the disease.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Absence of the Right Auricle.*—A very interesting case of this is related in *Hufeland's Journal*, for July, 1831.—The subject of it was a woman who had been affected with violent palpitations and dyspnœa. On post mortem examination, the heart was found soft and without any right auricle. In the place of this latter, there was a venous canal, an inch long and an inch and a half in diameter, which extended from the heart to the union of the two venæ cavæ; the sole trace of a venous sinus was a small portion of the septum, but there was a larger vestige of the auricular appendix, its size was equal to that of a large pea. Where the venous canal united to the heart a circular furrow marked the situation of the tricuspid valve; the opening was however so large that the canal of the superior portion of the right ventricle formed but a single and the same cavity; the inferior portion of this ventricle was separated from the superior by transverse fleshy columns which divided this ventricle into two cavities; the pulmonary artery was very large; the left side of the heart was small, but its structure was normal. There were tubercles in the lungs.—*Archiv. Gén. May*, 1833.

2. *On the Alleged Existence of a Ganglion Oticum in Man and Quadrupeds.* By Professor Schlemm, of Berlin.—Dr. Arnold, prosector of the University of Heidelburgh, in an essay published in 1828, has given an account of a newly discovered ganglion connected with the third branch of the fifth pair of nerves. This ganglion, which he discovered whilst investigating the anatomy of the cephalic portion of the great sympathetic, is described as lying on the inner side of the third branch of the fifth pair immediately below the *foramen ovale* of the sphenoid bone, and from its supposed intimate connexion with the organ of hearing, has been named by him *Ganglion oticum s. auriculare.*

The alleged discovery of Dr. Arnold seems in an especial manner to demand further investigation, as it is calculated to raise distrust in the authority of the most diligent and successful inquirers into this branch of anatomy, such as the first Meckel, Palletta, Bock, C. Bell, &c. and in this there would indeed be no injustice if these anatomists had really passed over unobserved such a distinct and striking object as the ganglion described by Dr. Arnold.

Such considerations as these, and also a complaint expressed by Dr. Arnold of a want of due attention on the part of anatomists to his discovery, led Professor Schlemm to investigate the subject with all possible care. The following are the general results of his observations:—

"1. In man, the so-named *Ganglion oticum* does not exist.

"2. That body is present in ruminants and some other animals, but it is not united to the third branch of the fifth pair by nervous matter, being connected

with it merely by cellular substance; and in my opinion, the body in question is not a nervous ganglion, but a lymphatic gland.

"3. Except the filament termed by Arnold *Nervus petrosus superficialis minor*, already alluded to by me, in the calf, which Dr. A. describes as arising from the *Ganglion oticum*, all the nervous branches in question, viz. the *Nervus pterygoideus internus*, *Nervus ad tensorum tympani*; and *Nervus ad tensorum palati*, arise from the third branch of the *Nervus trigeminus*;—the *Nervus pterygoideus* coming off immediately from that branch, whilst the last two are in every case branches of the *Nervus pterygoideus*."—*Ed. Med. and Surg. Journ. April*, 1833.

PHYSIOLOGY.

3. *Discovery of a New Principle in the Serum of the Human Blood.*—M. Felix Boudet, in a memoir presented to the Institute, has investigated anew the composition of the serum of the human blood. His researches prove, that when evaporated to dryness, exhausted by boiling water, and dried anew, it yields to boiling alcohol the following substances: 1*st*, a peculiar immediate principle, called by the author *seroline;* 2*d*, *cholesterine;* 3*d*, a *soap*, soluble in water, most probably formed by the margalate and oleate of soda; and 4*th*, the *fatty matter of the brain*.

Seroline in deposited, on cooling, from the boiling alcohol by which the serum has been exhausted. The liquor filtered, when cold and evaporated, leaves a residue of a resinous consistence (*de consistance terebinthineuse.*) On treating this with cold alcohol, at 36° (*specific gravity* 0.8252,) the fatty matter of the brain is separated, and a substance is dissolved, which is considered by M. Lecanu to be an oil, but proved hy M. Boudet to be composed of several distinct principles. In fact, the liquor left to itself, deposits crystals of cholesterine, and retains the soap mentioned above, together with a little of the fatty substance of the brain.

Seroline is white, of a slight pearly-colour, in the form of filaments, which, viewed by the microscope, present the appearance of globules, or globular swellings. It melts into a colourless oil at the temperature of + 36° (97.8. *Fahr.*) It has no action on coloured reägents, but like cholesterine, becomes red on the contact of concentrated sulphuric acid. Sulphuric ether dissolves it easily; alcohol on the contrary, at 36° (*sp. gr.* 0.8252,) dissolves only a trace of it at the temperature of ebullition, but has no effect on it when employed cold. Treated hot for six hours with *aqua potassæ*, it seemed not to experience any modification, and hydrochloric acid produced not the least disturbance in the alkaline liquor. Neither acetic nor hydrochloric acid produced any apparent alteration on it, whether hot or cold. When heated a long time with nitric acid, it was not dissolved, but became soluble in *aqua potassæ*, to which it communicated a brown colour. Distilled by the lamp in a small glass tube, it diffused a very characteristic odour, furnished some alkaline vapours, a trifling residue resembling charcoal, and appeared to be in part volatilized. The small quantity of *seroline* obtained, did not permit M. Boudet to submit this subtance to a greater number of tests, but he conceives that enough has been done to prove it to be a new principle.—*Ed. Med. and Surg. Journ. from Journ. de Pharmacie, June*, 1833.

4. *On the Umbilical Vesicle.*—It has been ascertained by the investigations of Professor Mayer—1st. That in the normal state, the umbilical vesicle of the human embryon remains visible from the commencement to the termination of the entire development of this last. In the placenta of two twin , at the full term of utero-gestation, two vesicles may be distinctly perceived. § 2d. That the conduit of the umbilical vesicle does not become permeable until three or four weeks after the descent of the ovum into the uterus. 3d. That the vesicle does not contain any yellowish, pulverulent substance; that its conduit, though per-

fectly whole and permeable, is so small, that it can but in a very small degree serve for the nutrition of the embryon, although the latter is exceedingly minute in the first four weeks of its development. Further, it should be remarked that the umbilical vesicle is large in the carnivora, whilst it is very small, can contain only a few drops of fluid in the herbivora; in the human species it is very small. 4th. That numerous observations lead to the conclusion, that the circulation of the blood continues for a long time in the omphalo-mesenteric vessels, whilst the permeability of the conduit of the umbilical vesicle continues only until the third month of gestation. In a monstrous fœtus, at full term, the omphalo-mesenteric vessels were very distinct in their whole course.—*Archives Gén. Feb.* 1833, *from Allgemeine Med. Zeit. No.* 73, 1832.

PATHOLOGY.

5. *On the Different Sorts of Goitre.*—Dr. Sacchi, the chief surgeon of the hospital at Treviglio, has written a very able memoir on this subject, in the December number of the *Annali Universali*, from which we shall make a few extracts.

The first form, or species, is that wherein the gland is simply enlarged in volume, but not changed in structure; it has been called by some the fleshy goitre; Dr. S. prefers the term of hypertrophy of the thyroid gland. It is common in young girls and in women—has a regular, even surface, an uniform resistance, and seldom presents any distinct divisions, or lobes.

It may be often cured by medical treatment. If not dispersed, the gland becomes in time variously altered;—these alterations may be reduced to two leading forms; in the one, the goitre assumes a scrofulous character; in the other, an encysted, or, as it has been called, a lymphatic character. The scrofulous goitre attains often an immense size, but does not give rise to corresponding inconvenience or danger—it is generally lobulated. Now, in course of time, one or more of these lobes may become soft, and give to the finger the feeling of fluctuation; this constitutes the soft, hydatidic, serous, or lymphatic goitre of authors; the structure has become vesicular, and the contained fluid is sometimes watery—at other times mucous or albuminous, like the white of an egg. In a few cases, it is more like milk or pus, or different cells may contain different sorts of fluid. It must, however, be well remembered that some goitres, which have a most distinct fluctuation, yet contain no fluid; the structure of the gland has degenerated into a mass like that of the placenta, or of a wet sponge.

This variety of goitre is remarkably smooth, uniform, and elastic to the touch. Some goitres undergo a partial ramollissement; for it is quite a mistake to suppose that they always become harder and harder, the longer they exist. From what has been stated, it may justly be concluded that hypertrophy, scrofulous change, and lymphatic degeneration, should be considered as three progressive stages of the same disease; and it is not unfrequent to find different parts of the gland simultaneously affected with these three diseased conditions.

It has been a subject of dispute, whether the thyroid gland is ever primarily affected with true scirrhus. Scarpa said *not;* and maintained that the disease was always consecutive to cancer or scirrhus of the tongue, œsophagus, parotid, or submaxillary gland, &c.

Dr. Sacchi has, however, narrated a case in confirmation of the opposite opinion: and the dissection of the tumour must preclude any attempt to gainsay its nature. An example of genuine fungus hæmatodes is also detailed.

One of the most curious alterations of the thyroid gland is that which has been called the aneurismatic goitre; it is formed by an abnormal or excessive development of the thyroid arteries, and of their branches; the former sometimes acquire the size of one of the carotids. On examining the tumour during

life, it is found to have strong pulsations at every point; but the pulsations do not resemble those of an aneurism—they convey to the hand rather a sensation of the blood flowing along very rapidly into numerous vessels, and are accompanied with a sound like an obscure buzzing, or tremulous murmur of the whole surface; but this is more distinct and strong over the site of the thyroid trunks. In two cases, given by our author, the tumours had existed for a number of years, and both had been originally brought on by the efforts of the women during their accouchements.

In addition to the preceding forms of goitre, we may state, that the thyroid is occasionally the seat of tuberculous and melanotic depositions, and of hydatidic, atheromatous, cartilaginous, bony, and even of chalky formations. Now all these, as well as the preceding tumours, are included in the general appellation of goitre. Dr. S. adheres to the old opinion that this disease is very frequently, perhaps most commonly, induced by the prolonged use of unwholesome calcareous waters. In proof of this, he alludes to the sanative results of changing the residence of the patients. This, he says, is by far the most important of all remedial means. Iodine is useful chiefly in the hypertrophic and scrofulous forms; less so in the lymphatic; and is quite inefficacious against the small, isolated, and hard goitres. The best mode of using it is by friction, with an ointment of hydriodate of potass, to be continued for one, or for several months.—*Med. Chirurg. Rev. October*, 1833, *and Annali Universali.*

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6. *Case of Encysted Abscess of the Cerebellum communicating outwardly.*—The following very curious case, related by Dr. Scalvanti, of Pisa, is an interesting contribution to the pathology of the brain.

A soldier, aged twenty-three, of a plethoric and healthy constitution, was admitted into the Royal Hospital of Santa Chiara, with the following symptoms, which had suddenly come on; active pyrexia, severe head-ache, stupor, hard, vibrating pulse, &c. The left parotid was swollen and inflamed. Active depletions speedily restored him; and all that he now complained of was a pain deep-seated in the left ear, accompanied with tinnitus. Blisters and other topical means were tried, but to no purpose; he therefore left the hospital, but soon returned; and now, in addition to the otalgia, there was a swelling of the meatus externus, and he was tormented with head-ache. By cupping, antimonial ointment, &c. he was relieved, and enjoyed a respite for several days; but it was only a respite, for again came back all his distresses worse than ever; the head-ache was accompanied with violent pulsations and a feeling of burning heat; the patient was feverish and watchful, and the integuments over the squamous bone were puffy and inflamed; leeches were applied to the inside of the nostril, with considerable benefit; still there was the beating pain in the head, which at stated periods became much exacerbated. For about six days he was tolerably easy, but this deceitful calm was soon followed by another attack of suffering; the swelling of the integuments had now increased, and pressing them with the finger caused pain, and left a pit.

These alternations of suffering and relief, the distressing head-ache, which never altogether left the poor patient, and the immunity of the intellectual faculties, led Dr. S. to predict disease of the cerebellum, according to the opinion announced by Lallemand in his Anatomico-pathological Researches. A doubt existed, whether the cerebellum was primarily diseased, or subsequently to a disease of the internal ear. However this might be, the man became worse; in spite of occasional intervals of a few days ease, each attack was more severe and alarming; he became almost quite deaf and stupid, and the external swelling extended along the parietal and occipital bones. A surgeon who was called in consultation differed in opinion from Dr. S., and recommended an incision upon the mastoid process. He considered that the disease was altogether external, and that no suppuration of the cerebellum could have taken place, because there were no symptoms of compression, and the intellect was little impaired. He was not aware of the results of Lallemand's researches. The

incision was made, and the bone laid bare, but no appearance of disease was to be seen; the lips of the wound were however kept apart. The result seemed at first very gratifying; the head-ache and deafness were surprisingly relieved; and the external swelling much reduced. His physiognomy however became more stupid, and his speech betrayed a wavering state of mind. It is to be observed, that during the intervals of ease, his appetite was always vigorous; unfortunately for himself he on one occasion had indulged to excess; he was seized with obstinate vomiting; became paralytic, and died on the 29th of June.

Dissection.—On cutting down to the bone, the temporal muscle was found to be healthy; the pericranium was somewhat thickened, and a spoonful of pus was found underneath it, between the squamous and zygomatic portions of the os temporis; a hole penetrated right through the bone, just above the meatus auditorius externus, and over the phrenological organ of destructiveness. The membranes of the brain were highly injected;—that portion of the left hemisphere, which occupies the middle and lateral fossa of the basis cranii, was very considerably increased in volume; the cerebral anfractuosities had disappeared, and the cerebral substance was unusually resistant and elastic; the dura mater was perforated opposite to the hole through the bone. Upon opening the lateral ventricles, it was observed that the left one was sensibly diminished in capacity; and right beneath it, a sac, or cavity of the size of a hen's egg was found; the medullary substance had been wasted away, so that the boundaries of the sac were formed by the cortical or gray portion—it terminated outwardly in a funnel-shaped prolongation, which communicated by the previously-mentioned apertures through the dura mater and the bone, with the abscess under the pericranium. The walls of the sac had a fibrous appearance, and altogether resembled an inflamed mucous membrane. The rest of the encephalon was normal.—*Ibid.*

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7. *Case of Diphtheritis with Clinical Remarks.* By William Stokes, M. D.—The subject of this case is a man, who was admitted into the Meath Hospital, August 10th, labouring under an attack of double pneumonia; he had, in fact, intense and neglected inflammation in both lungs; and, when he came into hospital, all the symptoms and signs of a violent pulmonary inflammation were present. The patient was, however, of a robust and strong habit, and did not, at the period of his admission, exhibit any appearance of gastro-enteric disease. A short time after he came into the hospital a quantity of blood was taken from his arm, which, on subsequent inspection, was found to be neither buffed nor cupped. Now, this was very remarkable, and interesting in a certain point of view, because, on a second bleeding, the blood presented an extraordinary coat of buff; and, in consequence of this, looking on it as an acute case, I was induced to treat him by bleeding, leeches, and tartar emetic. If he had manifested any symptoms of the typhoid pneumonia, or gastro-enteric inflammation, I would not have acted in this manner, for reasons which I have detailed in a former lecture. Under the treatment employed he experienced decided relief. He continued to use the antimonial solution for three or four days, during which he took eighteen grains of tartar emetic, and bore it remarkably well. On the fifth day a new train of symptoms appeared, and the report is as follows:—"His cough has, within the last few hours, assumed a laryngeal character; his voice is husky, and articulation difficult; his breathing laborious; and he complains of great soreness in his throat." On examination, several thick patches of a dense, firm, white substance, were found on the tongue, velum, and back of the pharynx. Here, gentlemen, was a new disease, shown by exudation of this peculiar membrane and laryngeal cough. On the other hand, the original affection had been much alleviated; the right lung was almost healthy; and the left, which had been extensively dull on percussion, had nearly regained its natural clearness of sound. We immediately omitted the use of the tartar emetic; in the first place, in consequence of the resolution of the pulmonary inflamma-

tion, and secondly, on account of the supervention of this new disease. A large blister was applied to the throat, and the exudation on the fauces was brushed freely with a camel's hair pencil dipped in the strongest muriatic acid. On the seventh day, the report is, that he is improving rapidly; the patches of thick mucus are nearly detached; and it has been thought adviseable not to apply the acid any more. The next day, however, his voice again became husky, and the laryngeal cough returned; we therefore ordered him to have the decoct. polygalæ, to use the muriatic acid again, and have his bowels freely opened. To-day his voice is clearer and louder, his cough better, his breathing is not so stridulous, and he states that he feels much better.

Gentlemen, this diphtheritis is a most formidable disease, and one which I believe very few of you have witnessed before. It is analogous, in many of its most prominent features, to that affection which the old medical writers called *cynanche maligna;* at all events, it resembles it in this, that in both there is the formation of a dense albuminous pellicle, (whence the name;) and I think that, as far as it goes, we may call it a species of croup in the cavity of the mouth and pharynx.

I said before that this was a formidable disease, and you will ask, perhaps, in what its danger consists? In the first place, it is characteristic of a bad state of constitution; in the next, we have another source of danger depending on a mechanical cause. What is it that we observe in this affection? This membrane is formed on the tongue, velum, tonsils, and back of the pharynx; if not arrested, it creeps on until it reaches the larynx; the inflammation continues its destructive career; and the patient may die with all the symptoms of croup; in fact, he dies in the same way as a person who has swallowed a quantity of boiling water. When a patient dies soon after swallowing a quantity of boiling water, it is generally not from the amount of injury done to the digestive tube, but from an extension of the inflammation to the larynx; and in this disease the inflammation travels in precisely the same way. Lynam was on the point of losing his life by croup; his laryngeal symptoms came on with great violence; for several days he was in imminent danger; and though we have succeeded in removing the disease for this time, still we are not quite sure of his recovery. We have used the strong muriatic acid on the authority of Bretonneau, who states, that he has not found any application so useful in diphtheritis; and as far as I have seen of its use in this hospital it seems to me a remedy of the greatest power.

There is another source of danger in this complaint, connected with its peculiar nature, namely, that it is not amenable to the ordinary resources of antiphlogistic treatment. We find local or general bleeding, blisters, purgatives, or antimonials of little avail, the only means we possess of combating the disease, are those recommended by Bretonneau, and I must repeat, that from the result of the present case, and a few others which have occurred in this hospital, we have no reason to doubt the efficacy of the application. It is a fortunate circumstance, indeed, that we can avail ourselves of a remedy so simple and valuable when disease appears in so threatening a form, and our ordinary resources are found to be so feeble and inefficient. I beg of you to hold this case in memory; and if during the progress of some acute disease your patient should get a violent attack of laryngeal cough, and on examining the throat you find the characteristic membrane of this inflammation present, take the alarm immediately, and have recourse to the application of Bretonneau. Fix a piece of lint on a gum-elastic catheter, or some other appropriate instrument, and having dipped it in the strongest muriatic acid, brush the whole diseased surface, and continue to do this daily, or oftener, until your patient gets relief. I shall bring this case again before you at a fit opportunity; our patient is better to-day, and has had no increase in his symptoms for the last thirty-six hours, so that I hope we shall be able to effect a cure.

It may be asked, was the diphtheritis in this case produced by the employment of tartar emetic? Without denying that this might be the case, I must observe, that no instance of a similar kind has occurred among the hundreds of

patients who have been heretofore treated with tartar emetic in this hospital, and that it would be therefore not unreasonable to infer, that the disease in question has not been produced by it. There is one more remark which I wish to make before I quit this subject. Whenever you have a case of this kind to manage, be cautious in your prognosis; it shows a bad state of constitution, and you cannot tell how it may terminate. I have seen many bad diseases come after it; and the mere occurrence of such an affection is sufficient to prove a morbid state of the whole constitution.—*London Medical and Surgical Journal, September* 14*th*, 1833.

8. *Case of Phthisis Laryngea, with Remarks.* By William Stokes, M. D.—The patient is a man labouring apparently under an affection of the larynx; he has aphonia to a great degree and some cough. I direct your attention most particularly to this case, because it is one of extreme interest, and involving several considerations with respect to disease and its treatment. What are the symptoms observable in this man? Cough of a laryngeal character, loss of voice, emaciation, and hectic. This is a combination, to which you will hear the name of phthisis laryngea very frequently applied. It is commonly supposed, by persons not conversant with pathological anatomy, that we have a great many varieties of phthisis, and among the rest phthisis laryngea, that is to say, consumption depending on an affection of the larynx. More recent researches, however, have shown, that what has been termed laryngeal phthisis has on careful and accurate investigation often turned out to be phthisis pulmonalis. It has been proved, that in the great majority of chronic laryngeal affections, in addition to inflammation and ulceration of the mucous membrane of the larynx, the existence of tubercles in the lungs has also been discovered, so that when a case of the present kind comes before you, it is very probable that the patient is consumptive, although he presents nothing more than the symptoms of a laryngeal affection. This I believe is the opinion best supported by facts, and several of the most distinguished pathologists assert, that they have never seen the ulceration of the larynx without the coëxistence of pulmonary tubercles. I draw your attention to this circumstance, as it is not generally observed or commented on by British practitioners, and yet, where is the intelligent practising physician who does not immediately perceive its importance? In a case of this kind, possessing such information, we would not think of employing mercury, we would never have recourse to tracheotomy, nor would we adopt as therapeutic agents the severe means generally used. Surgeons are often not aware of the exact nature of this disease, or medical men in general. I remember having witnessed a case in which an error of this kind was committed; the patient was a gentleman, labouring under an inflammation of the mucous membrane of the larynx of considerable standing, which, owing to some cause, was much exacerbated; he had been mercurialized for it, and when I saw him, he was like a person in the last stage of consumption. He had great rapidity of pulse, emaciation, hectic, and profuse expectoration. On applying the stethescope, in order to satisfy myself, I found several large caverns in the substance of the lungs, which must have existed there for a considerable time. Now, any person cognisant of the fact, that most of these cases of chronic laryngeal disease are accompanied by pulmonary consumption, would certainly never think of employing mercury, which only accelerates the fatal termination of an incurable disease.

To persons unacquainted with pathology and medicine, it seems strange that diseases, apparently of so curable a nature, and particularly in their commencement, when the symptoms are only those of slight laryngeal cough, should prove so refractory to all modes of treatment; and this is apt to beget doubts of the efficacy of medicine. It is, however, no opprobrium to our art; the seeds of disease lie deeper and have been much longer planted than most persons are aware of; and at the very time when there are scarcely any phenomena capable of exciting attention, except a mild laryngeal cough, and some slight wasting

of flesh and acceleration of pulse, the structure of the lungs may have become extensively altered by tubercular development. I do not deny that the larynx may be the first seat of the disease, I only contend, that in a vast proportion of cases, (of what is called phthisis laryngea,) the primary affection has been the formation and growth of tubercles in the lungs; and that though in most cases the disease *appears* to commence in the larynx, still on closer examination we shall find that it is caused by pulmonary tubercles. What is the ordinary history of such cases? A medical man is called in to attend a patient who is labouring under laryngeal cough and sore throat; the case is set down as a chronic affection of the larynx in many instances, and the possibility of pulmonary complication is overlooked. Yet if you come to investigate such cases with accuracy, you will find, that previous to the appearance of symptoms of laryngeal disease, there were decided signs of pulmonary disorganization. You will find, that at a period before the occurrence of his present affection, he had cough which was not of a laryngeal character, or he had spitting of blood, or some other symptom of disease of the lungs. I think we may safely lay it down as a general rule, that in all cases of chronic laryngitis which have been preceded by pulmonary symptoms, there is every reason to suspect the existence of tubercles in the lungs.

This subject, gentlemen, is of importance also in another point of view; because in certain cases of disease of the larynx it is very difficult to determine with certainty whether the patient has an affection of the lungs or not. In some of these cases we have stridulous breathing, in others not; in some there is an obstruction to the entrance of air into the lungs, in others no such impediment exists. In those cases where there is a mechanical obstruction to the entrance of air into the lungs, we find that all the phenomena of respiration are masked, and it is extremely difficult to make a satisfactory stethescopic examination. The air enters slowly and feebly into the lungs, its passage through these organs is marked by a corresponding want of intensity, and all the usual physical signs are rendered obscure. We may have a cavity in the lung, and yet the air will pass so slowly and feebly into the lung, that we cannot hear with any degree of precision the sound which it makes in passing through that cavity. There may be gargouillement, there may be cavernous râle, but we cannot hear them; all the signs of the different stethescopic phenomena are almost entirely lost. Again, the patient is aphonious, and what is the consequence? We lose all the phenomena connected with the voice, we cannot examine the pectoriloquy or the resonance. The very sound of stridulous breathing obscures any other sound that may exist; so that many circumstances, as you perceive, render it very difficult in such cases to say positively that there are tubercles in the lung. *This, however, refers peculiarly to those cases where there is stridulous breathing*, for where this is absent, as in the man above stairs, we are better able to detect their existence, and in most instances can make a pretty satisfactory examination. But how are we to ascertain the presence of tubercular matter where the breathing is stridulous? This is a matter of difficulty, but by attending to the following directions you will (generally) be enabled to arrive at a proper diagnosis. In the first place we have a direct sign from percussion. The mere mechanical obstruction to the entrance of air into the lungs will not affect or alter the phenomena of percussion, and although the stethescope is useless here, and gives us no certain information, we have a valuable auxiliary in percussion. If you should therefore meet a patient who has been labouring for some time under laryngitis, who has acceleration of pulse and wasting of flesh, and that on examination you find (the upper) portions of the chest dull on percussion, you may be almost certain that he has tubercles in the lungs. You must next inquire into the history of the case, and if you find that the laryngitis has been preceded by hæmoptysis, or other pulmonary symptoms, your suspicions of the existence of phthisis will be more strongly confirmed. Lastly, if you take into consideration the very frequent complication of these two diseases, and combine all this knowledge, you will be able to make a correct and well-grounded diagnosis.

You will discover on a careful examination that in most of these cases the formation of tubercles was antecedent to the occurrence of laryngeal symptoms. Remember this, therefore, in your prognosis, and you will never expose your patient to the torture necessary to remove a chronic laryngitis. With respect to the patient whose case I have been commenting on, it appears that he had symptoms of pulmonary disease before the laryngeal affection took place. He had first, as he states, hæmatemesis, then cough, and afterwards hæmoptysis. As he has no stridulous breathing, you can examine his chest more satisfactorily, and ascertain whether he has tubercles or not. You will find that he has distinct cavernous râle, that his voice is more resonant on the right side of the chest than on the left, and combining this with the existence of laryngeal disease, and recollecting that the pulmonary affection preceded that of the larynx, you may decide with certainty that he has consumption, and that the laryngeal affection is only an accidental complication.—*Ibid.*

MATERIA MEDICA.

9. *Observations on Local Blood-letting and on some New Methods of Practising it.* By Jonathan Osborne, M. D.—Opening the veins of the foot is a practice still resorted to in cases of obstructed menstruation by practitioners who must be above the influence of vulgar prejudice on the subject. The trials which I have made have not enabled me to arrive at a conclusion as to the question whether this practice possesses any advantage above general blood-letting. Bleeding from the veins of the tongue is another old practice now nearly forgotten, having been superseded by the more manageable mode of taking blood by leeches. By opening the veins on the back of the hands we can usually obtain blood with great facility when particular circumstances forbid bleeding in the arm. Bleeding from the jugular vein is not well suited for taking blood from the head, because the external jugular, which alone is within our reach, is supplied from the superficial veins of the neck, and principally from those of the larynx, but not from the interior of the head. Great benefit, however, may be derived from opening it in sudden attacks of croup.

The application of leeches is frequently a cause of great fatigue to the patient, from the length of time during which stuping with hot water is kept up in order to promote the hæmorrhage from the leech bites; and, in some cases, when this operation is continued under the bed-clothes, the damp communicated to these produces cold, and is uncomfortable to that degree as often to prohibit their use. All this is obviated by the application of warm cloths of linen or calico applied perfectly dry, and removed in succession according as they have become saturated. By these means the blood is absorbed by capillary attraction, a process which cannot take place with wet applications. When dry cloths are thus applied and renewed to cuts in the skin, or to leech bites, I have found the bleeding uniformly to continue as long as the application was kept up, it being required only to supply fresh portions of the dry cloth to insure the continuance of capillary attraction, and thus to prevent coagulation at the mouths of the vessels.

This mode of managing leeches I am thus particular in describing, as it has enabled me to apply them in a case in which, if wet cloths were used, very serious danger might arise. I allude to bronchitis, both acute and chronic, in which the application of leeches to the larynx and to the trachea in the triangular space between the mastoid muscles, has appeared to me to be the most decisive and immediately successful remedy of all those which I have ever employed. In laryngitis, their utility is obvious and commonly recognised, but in bronchitis it has escaped notice, that the most immediate depletory process which can be performed on the mucous membrane of the bronchial tubes is that of leeching the trachea and larynx. It appears to remove blood not only

from the mucous membrane of that part of the bronchial tube to which the application is made, but also from the whole tract of the bronchial tubes throughout their ramifications, being nearly equally efficacious in putting an end to the cough, when the remoter tubes are affected, as when the larynx is the chief seat of disease. This application is also of singular efficacy in stopping the cough of phthisis, insomuch, that by resorting to it according as required in cases in the hospital, we have been enabled to secure sleep at night, and during the day to keep the phthisical patients so free from cough, that a superficial observer might readily believe that we had cured the disease.

It has been ascertained that leeches will continue to live and to draw blood, although immersed in water at a temperature considerably above 100°. Now, in cases of violent inflammation of the abdominal viscera, when local abstraction of blood and warm fomentations are both at the same time imperatively demanded, as soon as leeches have been applied to the abdomen the patient may immediately be placed in a hip bath, without waiting for them to fall off. Thus we may cause the relaxation and diminution of sensibility produced by the heat to combine with the benefit to be derived from the topical loss of blood.

The application of leeches to mucous surfaces was, I believe, first described by the Surgeon-General, Mr. Crampton. Although I have not met with any case of cynanche which required the direct application of leeches as advised by him, yet there can be no doubt as to the immediate benefit to be derived from it. I have resorted to the mode of applying leeches to other mucous membranes by passing a needle and thread through their tails, at about one-fourth of an inch from the extremity. This practice, so far from incapacitating them from action, causes them to bite with increased ardour, and, in fact, may be used to stimulate torpid leeches. The thread to be passed through the tail of the leech should be strong, and its extremities are to be held by the operator, while, if necessary, he may direct the mouth of the leech by a probe, or channel made with a card, to the place where its services are required.

In certain head-aches confined to the frontal sinus, which, although originally derived from derangements of the digestive organs, yet do not cease when those derangements have beeen removed, a prompt relief is obtained from applying leeches in this manner to the interior of the nostrils; and in those cases no benefit is usually derived from leeches externally applied. The bleeding is usually rather more copious than if the application had been made on the skin; if, however, it should be deficient, the patient may encourage it by breathing over the vapour of hot water.

In inflammations of the conjunctiva, a leech thus applied to the Schneiderian membrane of the adjacent nostril evidently unloads the vessels of the eye. This application I have found of great use after the previous application of leeches to the tarsal conjunctiva. It appeared to render the improvement derived from the latter permanent, and prevented the necessity of repeating it.

In inflammations of the ear, this mode of applying a leech inside the meatus is eminently useful; and next to it in importance is the application of them behind the ear as near as may be to the meatus. It may be objected, that such applications are not well suited to inflammations of the internal parts of the ear, inasmuch as those are supplied by a different set of vessels from the external. But the effect of leeches is independent of vascular connexion. For example:—in inflammations of the stomach or intestinal canal, the benefit derived from leeches applied to the corresponding region of the abdomen is acknowledged by all; but the vascular connexion between those parts is as remote as that between distant regions of the body, the one being supplied from the arteries arising from the abdominal aorta, and the other from the epigastric and mammary arteries; and that there can be no anastomosis of vessels is evident from the interposition of the peritoneum, which insulates the viscera completely from the anterior parietes of the abdomen. The same observation applies with the same force to the thoracic viscera and to the brain. In all those

cases, however, the effect of local bleeding is proved so repeatedly in our daily experience, that the inability of satisfactorily explaining the way in which the effect is produced must not be allowed for one moment to press against the evidence of facts.

In inflammation of the mucous membranes of the bowels, especially of the rectum, the French practitioners apply leeches to the margin of the anus. If the leeches take externally, no benefit is derived, and to apply them internally is often difficult, on account of the violent contractions of the sphincter. Those contractions also prevent any considerable quantity of blood being obtained from the bites. I have employed a method of taking blood from the rectum, which obviates these inconveniences.—*Dub. Journ. of Med. and Chem. Science.*

10. *Croton Oil as a Counter-irritant.*—The croton oil has been lauded as a counter-irritant, by several writers in the late London Journals. It is repeatedly rubbed on the part where it is wished to excite irritation, so as to keep a fresh crop of vesicles constantly rising. Two or three drops night and morning will usually be sufficient. The following is Dr. HUTCHINSON's account of the effects of this remedy, as given in the *London Lancet*, for the 18th of May last. "Six drops of croton oil, when applied to a sound skin, and rubbed in for a period of from eight to twelve minutes, speedily produces a rubescence, to a greater or less extent, depending upon the individual's susceptibility; this gradually increases, until a general, though moderate tumefaction occurs, apparently affecting parts deeper seated than I have seen occur from the use of any other external irritant. This is succeeded, in a period varying from six to twelve hours, by numerous vesicles, some distinct, others confluent, differing in size and shape; at first containing a merely limpid serum, afterwards a distinct and consistent pus, and terminating in slight scabs. The redness produced is not of a vivid, but of a dull brick-dust hue. These circumstances, though regular in their course, vary much in intensity, according to the parts upon which the oil is applied."

We have ourselves employed this application in four or five cases of laryngitis, and with the most marked advantage.

PRACTICE OF MEDICINE.

11. *Cases of Empyema.*—In looking over a late No. of the *Gazette Médicale*, (June 8th,) we met with the four following cases of empyema; and from their interesting character deem them worthy a translation into our own language. This affection was well understood by Hippocrates, Celsus, and many other ancient authorities; and cases in which a cure resulted from the performance of an operation, may be met with in their different works. Numerous cases have also been reported in the different journals of Europe, as well as of this country, where the same happy result has attended the timely performance of the operation. It is not, then, for the purpose of substantiating the fact, that the operation has *frequently* proved successful, that we publish the following cases; but rather to furnish additional interesting facts to the number already collected by different observers, in order that at some future period, we may be enabled by taking a comparative view of the whole, to arrive at some definite conclusions with respect to the best manner of performing the operation, as well as to the characteristics of those cases in which it promises to prove most successful. It is in this way alone that reports of cases of any disease whatsoever prove useful.

Observation I.—Empyema produced by the repercussion of a variolous eruption, in which a cure was effected by the performance of an operation. Pasquet Benjamin, a joiner by trade, æt. 25 years, of a delicate constitution, and lymphatic temperament, entered the general hospital of Tours, the 1st of Jan.

1832, labouring at the time under intense fever, and a commencing variolous eruption. Such was the degree of his excitement, that it was found impossible to retain him in bed; the eruptive process was likewise but very imperfectly carried on, and in spite of all the revulsive measures employed to hasten its completion, a repercussion of the disease upon the chest took place. Towards the close of the month of January, he presented the following symptoms: respiration difficult, short and frequent; a sense of oppression and weight upon the diaphragm; a feeling of suffocation on the slightest movement; an almost continual cough, and the recumbent position upon the right side impossible. The left side of the thorax was sensibly distended, the intercostal spaces much wider than in a normal condition, and particularly distended at the inferior and posterior part of the thorax; the heart was forced to the right, and its pulsations were readily distinguished at the inferior portions of the thorax of this side; finally, when the patient moved, a sense of fluctuation or undulation was evident both to the touch and ear, without even having recourse to the ordinary forms of auscultation. Upon the 1st of February the patient was moved into the surgical ward, where the operation for empyema was performed by M. Herpin. The pus from its great quantity had depressed the diaphragm to such an extent, that the incision was made between the tenth and eleventh ribs, about an inch from the costal angle, the spot at which fluctuation was most sensible. An incision two inches in length and parallel to the direction of the intercostal space, was made through the integuments, and the pleura being exposed, an opening about two or three lines in length was made into it with a bistoury. A liquid, inodorous pus, filled with serous flocculi, escaped from the thorax, at first with some force, and in jets. When about a pound had been evacuated, the wound was dressed with a pierced compress, (compresse fenêtré,) lint and a roller. He was ordered jelly broth for diet; and for ordinary drinks rice water containing gum arabic in solution, and an edulcorated infusion of tilleul flowers. For several days afterwards the bed-clothes as well as the bed of the patient, were completely saturated with pus. The suppuration became more and more fœtid, so fœtid was it indeed, that a silver probe used in dressing the wound, became blackened. The lips of the wound also became swollen and inflamed, the patient restless, complaining, and completely disheartened; his face pale, wan and haggard, his eyes sunken in their orbits, and his skin of an earthy feel. This state of things continued until about the 1st of March. He was now ordered a potion, composed of yellow bark, and sulph. sodæ, āā. ℥ij. infused in ℥iv. of water, to be taken twice a day; and to have injected into the thoracic cavity a decoction of bark, to which a few drops of a solution of chloride of lime were added. From this period a sensible amelioration in all his symptoms took place; the pus became white, thick, and of good quality; and after the lapse of a few days, the suppuration having almost entirely ceased, the injections were discontinued upon the 2d of May. Three days afterwards, the patient having eaten a little more than he was accustomed to, was attacked with a chill followed by fever; with cramps in the abdominal members, particularly those of the left side; œdema of the face and feet; whilst the pain and oppression in the side returned with all its former intensity. The day after the occurrence of this attack, (6th of May,) a large quantity of reddish, sanguinolent pus was evacuated, with the assistance of a silver canula, which was blackened as in the former case. The injections of bark and chloride of lime were again prescribed, and the wound dressed twice a day. (Diet jelly broth, with an infusion of tilleul flowers, and an edulcorated pectoral tisane for drink.) An evident improvement in his condition again took place; the suppurative action seemed to concentrate itself upon the inferior portion of the pleural cavity, and the introduction of the sound, gave exit to blackish clots of a somewhat fibrous texture. Towards the end of May, the discharge from the wound had nearly ceased, notwithstanding that the sound still penetrated to the bottom of the abscess, (four or five inches from the external opening,) it was necessary to overcome a resistance which seemed due

to adhesions that had formed between the costal and diaphragmatic pleura. The lungs became more and more painful. On the 30th of May the injections were again discontinued, and a purgative infusion of bark given daily for two days; a blister was also applied to the nuchæ, and kept open for several days. From this period there was no more fever, no more oppression; the patient gradually regained his embonpoint, and a healthy clear complexion. The 2d of July following, he was exhibited to the academy of Tours. The right side of the thorax was perfectly resonant, the left likewise gave a clear sound towards its superior part, but inferiorly, and in the neighbourhood of the spot where the operation had been performed, it yielded a dull sound. It is remarkable that this patient never expectorated any puriform matter, although he laboured, and still labours occasionally under a cough, accompanied with impeded respiration.

Observation II.—Empyema consequent to the repercussion of a rubeolous eruption cured by an operation. The patient in this case was an infant, æt. 7 years, who had suffered from an attack of the measles, which had been neglected for some days after its appearance, it then had laboured under a catarrhal affection of some intensity; finally, an empyema showed itself, which pointed near the inferior angle of the left scapulæ. M. Herpin opened the tumour with the caustic potash, and afterwards treated the abscess with injections of barley water, containing a small quantity of honey. The suppurative process continued a month and a half when the orifice of the abscess closed. In a short time, however, a feeling of uneasiness, oppression, and suffocation came on, and it was found necessary to reöpen the wound, which continued to suppurate for several weeks longer. The parents anxious for the safety of their child, confessed to the surgeon, that they had suffered several years back from syphilis. M. Herpin now prescribed the following preparation, viz. sirop of sarsaparilla and distilled water, āā. ℥vj. to which eight grains of the deuto-chloride of mercury, dissolved in a sufficient quantity of alcohol was added. Dose, a spoonful night and morning in a tumbler of milk. After some time the suppuration decreased, the wound cicatrized, and the child was cured. Nevertheless, the diseased side of the thorax has never acquired a size equal to the other, and this young person at present, aged twenty-three years, (1832,) labours under a slight deformity of stature, though enjoying excellent health.

We have here detailed two cases of empyema dependent upon an analogous cause, (the repercussion of an exanthematous eruption,) both of which were treated by making an opening into the thorax, through which the atmospheric air had free access to this cavity, and both of which were cured. The analogy between them, however, here ceases. The attack does not appear to have been of so violent a character in the case of the child, as in that of the young man, yet the former suffered from a relapse, and was cured only by being subjected to a special treatment. We regret to find in this observation less of detail than could be devised, and we regret also, that M. Herpin has favoured us with no commentaries upon it. He contents himself with simply remarking, that he the more willingly entered upon the mercurial plan of treatment, as he has always found this class of remedies exceedingly efficacious in eradicating the deleterious effects of the syphilitic virus. He gives us a third observation still shorter than the preceding, in which the disease was brought about by a cause altogether local.

Observation III.—Empyema succeeded to repeated attacks of inflammation of the lungs, cured by an operation. A soldier, æt. 26 years, who had suffered from repeated attacks of inflammation of the lungs, was attacked with empyema, which pointed below the inferior angle of the right scapula; entered the hospital of Tours the 27th of March, 1827. Upon the 23d of April the tumour was opened, and an ichorous pus evacuated; in a short time the discharges became so fœtid, that the other patients in the same ward were obliged to leave it, whenever it was dressed. Hectic fever came on, and the patient was on the verge of the grave for several days. A decoction of bark was prescribed to be

taken as in the other cases, and the abscess washed out with a similar decoction made more stimulating by the addition of several spoonfuls of a solution of the chloride of soda. He was now attacked with a miliary eruption; at the same time the suppuration diminished in quantity, and lost its fœtidity. The eruption gradually disappeared, the fever was arrested, convalescence established, and the patient left the house the 22d of May following perfectly cured.

To these three interesting cases of M. Herpin, we will add a fourth, taken from *La Gazette Scientifique, &c. de Seine et Oise*, No. 2, April, 1833, which is still more remarkable on account of its complicated character, and the duration of the discharge.

Observation IV.—Secondary syphilitic symptoms; caries of the ribs; acute pleuro-pneumonia; empyema; operation; discharge kept up for nearly two years; cured. M. R. a lieutenant of cavalry, æt. 28 years, of a lymphatic temperament, and who had suffered from repeated attacks of the venereal disease, entered the hospital of Versailles the 19th of August, 1829. He was there successively treated for an engorgement of the neck, which terminated in suppuration, an abscess near the sterno-clavicular articulation, an indolent tumour about the cartilage of the third rib, which yielded to the application of the plaster of vigo *with mercury*, and for an intermittent sub-orbito-temporal neuralgia. He left the hospital the 6th of November convalescent. The 22d of the same month he reëntered, on account of the appearance of a tumour near the cartilage of the sixth rib, which had come on without any manifest cause, and was red, distended, and painful. Forty leeches were applied within the space of two days, without producing the slightest alleviation in the symptoms. On the 3d day it was deemed necessary to make an opening into the tumour, and a sound being introduced it was discovered that there was caries of the rib. The patient experienced some relief from pain for a short time, but it reäppeared the following morning, and was accompanied with dyspnœa, dry and frequent cough, pleuritic stitches in several different spots, streaked sputa, in short all the phenomena of an intense pleuro-pneumonia manifested themselves. He was ordered to be bled the same day. The next morning he was found "in extremis," and insensible. Revulsive medication was now resorted to. He was next attacked with an erysipelatous affection of the left side of the thorax, extending as high up as the neck, delirium, and increased difficulty of breathing. Notwithstanding this complication of most dangerous symptoms, he in a short time was relieved of the pulmonary inflammation; respiration became more easy, and the respiratory murmur returned in the right lung; the state of the left lung, however, gave rise to a suspicion of the existence, either of an engorgement of its substance, or a pleuritic effusion. A dilatation of the side of the thorax, which took place shortly after, left no doubt but that the latter affection was present. After waiting until the violence of the inflammatory symptoms had abated, the caustic potash was applied, for the purpose of making an opening into the thorax. The eschar, however, still continuing adherent after the lapse of twenty hours, an opening was made with the bistoury, and about two pounds of a yellowish serum, containing flocculi of concrete albumen evacuated. The wound was dressed with the pierced compress, lint and roller. By night nine or ten ounces of matter had drained off. Although the operation which was borne with great courage by the patient, produced an evident amelioration in his condition; yet the suppurative process was not arrested, it still continued fœtid and abundant, and the sputa itself became puriform in its character. Injections of the chloride solution were thrown into the cavity of the thorax, and immediately afterwards the patient complained of the taste of the chloride both in the throat and mouth. Already reduced to a state of extreme emaciation, the patient had the misfortune to be seized with an attack of acute articular rheumatism which required repeated blood-letting for its relief. The pain by this treatment was entirely dissipated, yet there remained an inflammation of the periosteum in two points, one which was seated upon the fibula, and terminated in resolution. Another upon the tibia which suppurated, and exposed

the surface of the bone for four or five inches; this however progressed favourably, and in six weeks was completely cicatrized. The two abscesses of the thorax, the one occasioned by the caries of the rib, the other resulting from the empyema, remained open a long time. In 1830 the suppuration was still going on, and had continued uninterruptedly from the period of the attack. During the summer of 1831, however, the patient picked up a little, and the discharge became less frequent, and consisted of a grayish serum. By the fourth of July 1831, the cough had entirely ceased; injections no longer passed into the cavity of the thorax; the left side of the thorax had contracted in a sensible degree; the respiration was perfect in the right lung, which now supplied the place of the left; and occasionally a few drops of pus would escape from the wound. A cicatrization of the wound was not long in taking place, and in the month of October following, M. R. left the hospital completely cured.

It does not appear that in this case the venereal constitution, which was much more strongly marked than in the infant, (the history of whose case forms the matter of the second observation,) required the exhibition of mercurials to effect its cure. M. R. was cured, moreover, notwithstanding that every symptom was unfavourable—temperament, former attacks of disease, complications, were all unfavourable to a cure; even the aspect of the fluid discharged was bad, for it has been remarked that collections of serous fluids are more difficult of permanent removal than the purulent empyema. What power then did he possess, that enabled him to resist so successfully this generally mortal affection? We see nothing at present but his youth; but how many individuals much younger than he have succombed to the operation! There exists then a leading condition of the system in this disease which up to the present day has escaped the notice of our observers, and which demands their most serious attention.

"Both of the able surgeons who have published these observations," remarks the editor of the *Gaz. Méd.*, "employed the caustic potash for opening the abscess. The period has not long passed when a pleural abscess was considered as altogether distinct from one occurring in other organs, and the surgeon considered it of the first importance to prevent the entrance of the atmospheric air into its cavity. Although these ancient opinions have undergone very great modifications, the employment of the caustic potash, in this or similar cases, has never been heretofore recommended. We see, however, that there exists no more danger in its application than in the employment of the bistoury. In all of these cases the matter discharged became in time very fœtid, and it was necessary to counteract this tendency by injections. Might we not prevent the occurrence of this disagreeable circumstance, and perhaps diminish the quantity of the discharge, by replacing for the first few days, by small injections, a part of the fluid evacuated. M. Recamier has found this plan of treatment prove exceedingly beneficial in cases of abdominal abscess, and others. It is usually stated by writers upon this subject that a necessity for having recourse to such an operation does not often present itself. This assertion is in part probably correct, when we take into consideration the immense number of inflammatory affections of the thoracic viscera which terminate by resolution; yet I believe that did we more constantly bear in mind the importance of the operation, and be more constantly on the watch for cures seeming to indicate its necessity, that it would be much more frequently performed; and many who now fall victims to doubt and indecision, be restored to health and usefulness; at all events, they would experience an amelioration of their symptoms, and a temporary relief from their sufferings."

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12. *Pathology and Treatment of Gastritis.* Extracts from a clinical lecture by Dr. William Stokes.—Numerous and important advances have been made in modern times, in the knowledge and treatment of gastric affections, and an enormous mass of facts have been accumulated of the deepest interest to practical medicine. It is, however, an unfortunate circumstance, and calculated to

excite much surprise, that a knowledge of the various forms of this inflammation is not sufficiently spread among British practitioners. There is still a great deal of ignorance and misconception on this subject; many persons are still accustomed to take a limited and superficial view of it, and a thorough acquaintance with the various modifications of gastric disease is at the present day any thing but general. At one time we hear it called disease of the liver, at another time dyspepsia, sometimes it is termed constipation, and sometimes derangement of the digestive organs. It is true, that in such cases we find constipation, dyspepsia, and derangement of the digestive organs, yet these terms, as they are commonly employed to designate the disease, are at once both useless and improper, because they convey no correct or pathological idea. We owe, I think, to Broussais a great deal of our knowledge of gastric and enteric inflammation; it was his researches that gave the first clear and luminous view of a class of diseases previously obscure and little understood. He failed, however, in procuring the general assent of the profession to the propositions he advanced, and one of the principal reasons of this failure, and of the partial diffusion of the knowledge of gastritis in this country is, that although he brought forward a great number of valuable facts, he also promulgated a theory which has not been clearly or successfully proved. This theory has been rejected, and with the theory British practitioners rejected his facts. * * *

Gentlemen, we have had no acute cases of gastric inflammation of late in our hospital wards, but there are two cases of chronic affection of the stomach, on which I purpose to offer a few remarks. The first is the case of a man in the chronic medical ward. This man is from the country, and is at present labouring under an affection of the stomach, exceedingly common among the Irish peasantry. I have seen a great deal of it in the course of my own practice, and any person residing in the country, if he happens to be a medical practitioner, must have been repeatedly called on to treat this form of disease. At least persons, who labour under it, are chiefly of that class who live a good deal on potatoes, and I am inclined to think this exclusive diet must have some share in its production. Most of those, who come into hospital with this complaint, are from the country, particularly persons whose circumstances have been impoverished, and who consequently have been compelled to change their former nutritious and better food for a potato diet. In such cases, we generally find those persons able to date the commencement of their illness from a period (immediately) subsequent to this change, and it is therefore not improbable that the change of diet has some influence in the production of this peculiar gastric affection.

The patient, who is the subject of the case before us, is somewhat reduced in flesh and of a sallow complexion. He has complained of pain in the region of the stomach, extending to the back, right hypochondrium, and shoulder. He has had tenderness over the epigastrium, loss of appetite, pain and sense of distention, increased after eating; vomiting of yellow matter occurs two or three hours after taking food, succeeded by thirst. His pulse is soft and slow; tongue clear; bowels open. His illness, (and this, I think, is a point worthy of remark,) commenced four years ago with pain in the stomach, increased by eating and relieved by vomiting; and some time after this the vomiting began to be succeeded by thirst. The vomiting generally came on in an hour or two after taking his meals, and he threw up a quantity of yellow slime. Another important point is connected with the treatment he has undergone for this disease. He has been relieved by antiphlogistic treatment, locally employed; we treated him since his admission by leeching, blisters, and cupping over the stomach, and latterly he has been using narcotics. Ninety-nine persons in a hundred would be inclined to call this a case of dyspepsia, and so it is so far as loss of appetite and derangement of the stomach are concerned, but the worst of the thing is that they would look at it only in a single point of view, and treat it as mere nervous disease of the stomach. Well, with respect to this man's case, it is either a chronic gastritis, or it is a nervous affection, and mere dyspepsia.

Before we proceed further, let us see what is the precise meaning of these terms. Dyspepsia is a name given to that condition of the stomach, in which, without any sensible alteration of structure or circulation, the stomach does not perform its functions in a regular and proper manner, but there is no organic lesion; and if a man, labouring under simple dyspepsia, were to die, we could not detect any change in his stomach, so far as circulation and structure are concerned. Chronic gastritis is a lesion of the stomach, with a change of its circulation and a thickening of its lining membrane, or, in other words, with signs of actual disease in the stomach. Now, in my opinion, there is a great probability that this affection, which is so frequently observed among the peasantry of this country, is a chronic gastritis. It may, I grant, commence by dyspepsia, but, in its advanced stage, and it is only in this stage that such cases come under the care of medical men, it is most commonly a chronic gastritis. We have heard, it is true, no post mortem examinations of this disease, and can, therefore, only reason on probabilities, but if we look to that form of treatment which has been found most successful in affording relief, we find it to be that which is calculated to remove irritation and vascular excitement. Besides, the antidyspeptic treatment has failed, after extensive and repeated trials. In fever this gastritis is of very common occurrence; and here also it is most advantageously met by local antiphlogistic means. But there is another circumstance which you should always keep in mind: by the time you get persons labouring under this gastric affection to come and place themselves under your care, they have been ill for months, and perhaps years. The disease is certainly at this time very chronic; and you are aware that it is a general pathological law, of the truth of which we have the most ample proof, that where an organ has been long subject to functional derangement, there is a strong probability that more or less of organic change has also taken place. We seldom see the brain, or the lungs, or the kidneys deranged in function for many years without more or less of structural alteration; and we may conclude that any viscus, in which functional disorder has existed for a considerable period, will ultimately experience organic change. If, then, we connect with these facts the failure of the antidyspeptic plan and other circumstances, we are led to infer that these and similar affections are cases of chronic gastritis. I do not say it is so exactly, but I think the collateral proofs are very strong in favour of its existence.

Well, what have we done in the present instance?—We have endeavoured to regulate the man's diet; we have cupped and leeched the epigastrium, and afterwards employed counter-irritation. In all cases of a similar nature our treatment has been nearly the same; in most it has been followed by permanent relief; but where this did not occur, and the patient complained afterwards, we have had recourse to narcotics. This man has been latterly taking, with the most signal benefit, the eighth part of a grain of acetate of morphia twice a day. You will see in Dr. Bardsley's Hospital Facts and Observations that the acetate of morphia has been employed with singularly good effects in the treatment of gastric affections; and where its use has been preceded by leeching I have a full conviction of its value, as well as that of various other narcotics.

There is, gentlemen, another case,—that of the patient Denham, who has been complaining of pain and tenderness in the epigastrium, with loss of appetite, and intolerable thirst. His face and extremities are œdematous, urine not albuminous, bowels confined. His tongue is red, and thickly coated with fur; his illness commenced two months since. I looked on this as a case of chronic gastritis; for, you observe, he had all the symptoms, pain, tenderness of the epigastrium, red tongue, impaired appetite, and an insatiable desire of cold drinks. We treated him by leeching and blistering the epigastrium; we gave no purgative by the mouth, but obviated the costiveness by enemata. By this treatment much good has been effected. Since the leeching and blistering, his thirst, which was so excessive that I thought at one time he had diabetes, has completely declined; his tongue is much improved, and he no longer complains of any gastric pain. His appetite, however, continues bad; and it will

remain to be seen by the progress of the case whether this depends on want of tone in the stomach or actual disease.

In submitting these cases to your notice, it may not, perhaps, be irrelevant to make some observations on the pathology of gastritis in general. Many circumstances tend to prove that chronic gastritis is a very common disease. Although not admitting of direct proof, I think it is also true, that where dyspepsia has lasted for a long time, there is more or less of gastric inflammation. Nothing is more common than dyspepsia; and hence, in all probability, chronic gastritis is common also. We are not, however, to go the whole length with Broussais, and give the name of chronic gastritis to every case of dyspepsia which comes before us. Broussais is too much of a solidist,—he refers too much to the mere visible alteration of organs, and his idea is, that every case of dyspepsia is a case of gastritis; that there is scarcely such a thing as mere nervous dyspepsia; that all instances of this kind are only various forms of gastric inflammation, and to be treated as such. Here it is evident that theory has led him astray; for that this notion is incorrect has been proved by the circumstance that several cases of dyspepsia have been relieved by treatment not calculated to remove inflammation. We every day see cases of dyspepsia deriving the most decided benefit from the use of stimulants, wine, and a generous diet; and where this occurs, who is there that would venture to call them chronic gastritis? But although we do not go the whole length with Broussais, and justly reject the speculative part of his doctrines, still we owe a great deal to his industry and research: he has brought forward a multitude of valuable facts which were formerly but little appreciated or understood; and when you are called on to treat a case of dyspepsia, I think you should take the greatest pains to ascertain whether it be chronic gastritis or not.

The next thing I have to remark is, that it is extremely difficult to make out the diagnosis of chronic gastritis; we do not know one symptom which would enable us to draw a line of distinction between dyspepsia and chronic gastritis. You will read in books a minute detail of the symptoms by which they are separately characterized, and will think yourself capable of making a diagnosis; but when you come to practice, even in an hospital, you will find the affair involved in very great perplexity. Another thing is, you will have all the symptoms and causes equally prominent in the early stage of both. I have often stated, that if I were examined on this subject, and required to give a diagnosis between gastritis and dyspepsia, I could not tell the diagnosis. The truth is, their symptoms are identical. In chronic gastritis there is no fever, and the pain, flatulence, distention, acidity, loss of appetite, &c. are the same in both. I feel convinced that chronic gastritis is very often confounded with dyspepsia by British practitioners. It is treated as disease of the liver by blue pill and black draught; it is treated as dyspepsia by tonics and stimulants; it is treated as constipation by drastic purgatives. Constipation arises from a variety of causes, frequently from inflammation of the upper part of the tube. Now, observe the result of mistaking chronic gastritis for any of these three complaints. If it be taken for dyspepsia, it must certainly be increased by the tonics and stimulants which form the great bulk of antidyspeptic remedies. Run over the whole class of antidyspeptic remedies, and you will find them to consist chiefly of powerful stimulants. If it be treated as disease of the liver, of course blue pill is given, but what is the consequence? The liver is stimulated, and there are copious bilious discharges; but the true cause of the disease, the gastritis, is wholly neglected, and, by neglect, becomes certainly worse. It will be also neglected, and even much exacerbated, if taken for constipation and treated as such. How are you to make the distinction and steer clear of error where your course is obstructed by so many difficulties? Recollect the rules which I have before given on this subject. If the disease is chronic, the probability is, that there is more or less of gastritis in it, and the more chronic it is the stronger is that probability. In the next place, when patients apply to you for advice they are generally a long time ill, and have gone through several courses of

antidyspeptic remedies. Now, if you happen to get a patient who has been treated for months, or even years, with blue pill, bitter tonics, and stimulants, and find that he is rather worse than better, you have two data to go upon; your diagnosis will therefore be more likely to be formed safely and accurately, and your treatment successful.

You will ask me, perhaps, would I never employ tonics in the early treatment of dyspepsia? To this I will answer—never, in case it should be combined with gastritis. Here, however, I must remark, that Broussais has gone too far in restricting such cases to a pure antiphlogistic treatment throughout, for I believe there is a period when such treatment will do no good. When we have completely removed all irritation by the former plan, I think we may then have recourse to tonics with decided benefit. When we consider the curative action of tonics, stimulants, and bitter medicines, in the treatment of the majority of diseases where they are employed, we find that they are most efficacious and successful when preceded by a judicious antiphlogistic treatment. We shall see more of this as we proceed.

There is another case which I wish to notice: it has been, I believe, one of an acute character; I allude to that of the man in the Fever Ward. This person, after committing an excess in drinking, got sickness of stomach and vomiting. In your investigations of any case which comes before you, it is of importance, towards finding a correct diagnosis, to hold these two things in view,—the exciting cause, and the first symptom of disease. Here you have, in the first place, excitement of the stomach from the use of spirits, and afterwards irritation, manifested by the vomiting. This was followed by loss of appetite, constipation, pain in the lower part of the left hypochondrium, foul tongue red at the tip, symptoms which indicate irritation of the mucous membrane of the stomach and intestines. When he was admitted into the hospital, however, what he chiefly complained of, and what were certainly the most prominent symptoms, were tightness across the chest, great difficulty of breathing, and harassing cough. His cough was indeed very severe, his sputa slightly tinged with blood, his breathing very much accelerated, and, to a superficial observer, he would appear to labour under chest disease. But, remark, we found out that he had been complaining of these symptoms for about three weeks, and consequently, if they had been pulmonary symptoms, they must have proceeded to a very alarming extent in that time. Mr. Lees examined him by percussion and with the stethescope, but could not detect any disease of the lungs, and he was examined by myself on the next day with the same result. Moreover, the patient had been previously treated for pulmonary disease without success. We were, therefore, led to conclude that there was no original disease of the lung, but only sympathetic irritation, depending on gastritis. We took small quantities of blood from his arm, leeched the epigastrium, kept his bowels open by enemata, and under this treatment we saw all his symptoms disappear, as it were, by magic. This is a remarkable case, giving us an illustration of the manner in which gastritis may simulate other diseases, and exhibiting the importance of attending to the exciting cause and first symptoms of a disease in order to arrive at a correct diagnosis. Here you see it putting on the semblance of pneumonia, in other cases it assumes the guise of encephalitis. It was remarkable, that the bleeding and leeching increased rather than diminished this man's strength, for after their employment his prostration nearly disappeared. You will see a great many of these cases in the course of practice, where the primary mischief is masked by a train of prominent sympathetic phenomena, and in which your diagnosis is to be founded on the following circumstances. These persons labour under a kind of fever; there is generally severe harassing cough, and respiration is considerably accelerated; their symptoms have been of several days' duration, and when you examine them with the stethescope, you find that the pulmonary symptoms are not accompanied by corresponding organic lesions, and have not advanced in proportion to their duration. You either find no disease at all in the lungs, or a bronchitis too

slight and trivial to account for such alarming symptoms. You next examine the larynx, and finding there no evidence of morbid change, you look for the cause of the cough in the digestive tube, and most commonly trace its existence to a concealed gastritis. If you meet with a case in which violent cough, laboured respiration, and other symptoms of pulmonary disease have existed for a considerable time, without any signs of disease of the lung sufficient to account for them, you may often sit it down as a stomach affection, and direct your treatment accordingly. Generally speaking, this simulated phenomena is most commonly met with in children, but instances of it in adults are by no means rare. Another thing is, if you happen to have tried pectoral medicines, and found them to fail, your diagnosis will be more certain. You remarked the case of a man who was here some time back, labouring under what may be called a tussis firma; well, this was dependent on gastritis. We treated him with leeches to the epigastrium and iced water with most signal benefit. He committed some excess in eating, and had a return of his complaint; he was treated again in the same way, and recovered. I remember having attended a lady some years ago, who complained of some feverishness, with very severe and harassing cough. Not being aware of the nature of the disease, I treated it as a case of fever, with irritation of the bronchi. The fever declined, but the cough continued without amendment; I was much embarrassed by its obstinacy, when one day, happening to be in attendance, the lady remarked that she had been under Dr. Cheyne's care for a similar complaint, and derived much benefit from leeches to the epigastrium. On this hint I acted; the leeches were applied immediately, and my patient's cough entirely disappeared. You will observe this is the point to which I would direct your attention; consider that the diagnosis depends on the persistence of pectoral symptoms; consider that if it were disease of the lungs, it would, in the course of two or three days, produce lesions capable of being easily perceived. But if this be the case, and you look in vain for any organic change to account for such excessive cough, you will seek for its cause elsewhere, and refer it to sympathetic irritation, produced by disease of some other organ, and this is most commonly the stomach. In connexion with this, I have to notice a very interesting fact in the pathology of gastritis. In such cases as the above, you will generally find but little direct evidence of gastric irritation. The patient has no vomiting, he complains of very little pain, and the epigastric tenderness is very slight. Here is the law by which such affections are regulated. In those cases in which the sympathetic irritation is most strongly marked, the usual or local symptoms of the disease are least apparent. We see cases of this kind apparently consisting of chest disease, and sometimes even assuming the appearance of cerebral disease, or tetanic symptoms, while the true signs are completely masked. You will find in Andral's work, a remarkable case of this kind, in which the ordinary symptoms of fever, vomiting, pain, and epigastric tenderness, continued for a few days, when tetanic symptoms set in, and immediately those which were indicative of gastric irritation disappeared. But we are not to be deceived by the supervention of sympathetic irritation manifesting itself in other organs, nor are we to suppose that the gastric affection has subsided because we have an imposing train of symptoms existing in other parts. As long as the irritation continues, no matter in what organ it appears, we have strong evidence that the disease, though lurking, is still unsubdued. It is of importance to bear this in mind when you come to treat cases of sympathetic irritation depending on gastritis. If you treat them as pulmonary disease, as any superficial observer, or any person unacquainted with the use of the stethescope would be liable to do, your mistake will be, indeed, a very serious one. In the first place, the gastritis will inevitably be increased by being neglected. In the next place, though the internal remedies which are ordinarily employed for the removal of pulmonary affections, as tartarised antimony, squill, and other similar means, obviously produce the worst effects in gastric disease, and must tend materially to its exacerbation, so that there are in such instances two sources of exaspera-

tion, one arising from neglect, the other from the employment of therapeutic means which are totally contra-indicated by the nature of the disease. Remember, therefore, that where there are violent symptoms of disease of the lungs, and where these have gone on for several days without any proportionate lesion of these organs, that you may look for their cause and origin in a concealed gastritis. Recollect also, that in such cases the gastritis may be nearly latent, and want most of those symptoms by which it is generally characterized.—*Lond. Med. and Surg. Journ. May 25th*, 1833.

13. *Treatment of Erysipelas with Mercurial Frictions.*—M. Casimir Broussais employs with great success mercurial frictions for the cure of erysipelas; but this remedy is not exempt from inconvenience, sometimes producing violent salivation, and more or less intense stomatitis. Two examples in which these affections resulted from the use of the remedy just noticed applied for the cure of erysipelas, are recorded in *La Lancette Française*, *February* 16*th*, 1833.

14. *Inflation of the Bowels.*—Mr. Blacklock, in a communication in our cotemporary, the *Glasgow Medical Journal*, for May, 1831, states that about thirteen years previously he attended a child whose bowels could not be moved by any of the agents usually employed in cases of obstruction, although there were no symptoms of inflammation till towards the close of the scene. Having obtained leave to examine the body, nothing could be discovered to account for death, but a very complete intussusception in the course of the ilium, and which immediately disappeared on inflating the bowels with the blow-pipe. It occurred then to Mr. B. that this might have happened had the bowels been inflated during life. Mr. B.'s son, about three years of age, was attacked with constipation, so that during nine days no evacuation could be procured from his bowels, notwithstanding the most persevering administration of purgatives, and the almost hourly use of enemata. At length Mr. B. had recourse to inflation, and the child immediately had a free evacuation. Mr. B. has since tried the remedy frequently, and often with the best result.

15. *Iodine in the Treatment of Salivation.*—In a recent number of *Hufeland's Bibliothek der Practischen Heilkunde*, there is a note strongly recommending iodine in cases of severe salivation, which is represented as removing the most violent inflammation of the salivary glands, and even healing ulcerations produced by mercury within a few days. The dose is two grains a day, increased to four. The following is the formula: ℞. Iodine, gr. v. solve in spt. vin. rect. ℥ij.; adde aq. cinnam. ℥ijss.; syrup. simp. ℥ss. Dose, half a table-spoonful, and gradually increased.—*Med. Gaz.*

16. *Rheumatism Cured by the Common Artichoke.*—M. Copeman relates in the *London Medical Gazette* for March last, several cases of rheumatism cured by the common artichoke. Mr. C. uses the article in tincture and extract, but prefers the latter. This is made by evaporating the expressed juice of the leaves and stalks to a proper consistence for making pills. Of the former preparation he gave ℥j. to ℥ij. three times a day; of the latter, grs. iij. three times a day. This remedy, he says, exerts no apparent influence over the functions of the skin; sometimes it clears the urine and increases its quantity, but not always; it produces apparently no stimulating or narcotic effects; but when given in large doses it acts more or less violently on the bowels, causing griping pains and purging, and as soon as this takes place, it ceases to produce any beneficial influence upon the disease.

Four cases of rheumatism are also recorded in the *London Medical and Surgical Journal* for August 31st, by Mr. J. J. Hallett, in which the remedy was administered with success. Mr. H. uses the juice only, which he extracts by cutting the fibrous and fleshy portions of the leaf into short pieces, convenient for bruis-

ing in a marble mortar. The juice is then easily separated from the pulp by pressure, and may be preserved by adding one ounce of spts. vin. rect. to every five ounces of the filtered juice. Mr. H. has never seen this produce catharsis.

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17. *Inflammation of the Mucous Membrane of the Bowels.* Extracted from the Clinical Lectures delivered at the Meath Hospital. By Dr. William Stokes.—This case would appear at first sight somewhat perplexing; but, by considering that this patient has had no irritability of stomach or vomiting, that during the course of his disease he has had thirst, but no desire for cold drinks, and that symptoms of irritation of the lower part of the bowels have been absent, you will be able to infer that it must be inflammation of the intermediate part of the digestive tube. This patient is, however, still in a precarious state, though he derived much benefit from the application of leeches to the right iliac region, and his head-ache rapidly subsided after their use; his tongue is still foul, and he continues very feverish. On Saturday he was very ill; he complained of ardent thirst, his respiration was fifty in a minute, but the stethescopic signs of disease were insufficient to account for such acceleration of breathing. Now, you all will recollect, that I have often told you that where there is fever and extremely hurried respiration, without any distinct evidence of disease of the lungs or windpipe, we should always look for the source of the disease in the digestive tube, and that this is most commonly found to reside in the stomach. In this man's case we could not, by the stethescope or percussion find any cause for the increased rapidity of respiration; but we observed that his belly was swollen and his thirst urgent. We applied the leeches again on yesterday with the most extraordinary benefit; the head-ache, tympanitis, and laboured respiration were manifestly relieved. An objection might be raised to the efficacy of this mode of treatment, as the improvement took place on the fourteenth day, and it might be said that it was an improvement which depended on a crisis. To this I will answer, that I have seen so many cases of improvement after leeching without crisis, that it is unnecessary to take this into consideration, and that in the present instance there has been no crisis is obvious, as the patient is still in a bad condition. If all his symptoms began to decline on that day, then indeed the effect of crisis might be reasonably inferred, but his original affection still continues; and therefore it is fair to conclude that his improvement is attributable to the remedies employed. There is another point with respect to leeching in gastro-enteritic fever; *we have seen numerous instances of crisis brought on by the application of leeches to the abdomen.* This is a curious circumstance; but I have seen it occur in so many cases that I feel convinced it would not have come on if the leeches had not been applied. I have seen the application of leeches and the supervention of crisis in such close and constant connexion, that I look on them in the light of cause and effect. Can we explain this? If you look to those diseases which have a tendency to terminate by crisis, you will find that they consist of cases in which there is no great preponderance or excess of irritation in any particular organ. Of this simple typhus is one of the most remarkable examples. When there exists a decided point of irritation in any particular part, the tendency to terminate by crisis is much less. Thus we seldom observe a distinct crisis in cases of acute enteritis or hepatitis, or inflammation of the peritoneum. Whenever we bring on a crisis in any disease in which there is distinct irritation of some particular organ or organs, we generally accomplish our purpose by reducing the local inflammation, and placing the organs in such a state as to give nature fair play. This is a point I have not seen sufficiently dwelt on in any medical work, but it is one of great importance, and which I wish to impress upon your minds. I have seen the application of leeches to the abdomen so frequently followed by a crisis, that I consider it fair to connect these occurrences in the relation of cause and effect. In these cases of the secondary inflammations of fever, it would seem that the tendency of the general disease to terminate by crisis, is prevented by the intensity of a local inflammation, which by its sympathetic irritation keeps up a febrile action. Now

if you modify or remove altogether this local affection, you, as it were, reduce the fever to the state of simplicity, and allow the tendency to a critical termination to operate.

A few more observations on this case are necessary. This patient exhibited one peculiar symptom, not generally described in these cases, a very evident pulsation of the abdominal aorta and the vessels which it sends to the viscera of that cavity. It appears that this is a circumstance of common occurrence, and that in most cases where there is acute local irritation the arteries going to the affected part take on an increased action independent of the heart's impulse. Thus, in cases of whitlow there is a manifest excitement observed in the arteries of the corresponding arm. The same thing I believe takes place in enteritis, and we may look on the increased pulsation of the aorta as arising from enteritic inflammation; when you lay your hand on the abdomen of a patient labouring under this disease, you often feel the vessels beating very strongly, *though neither the heart nor the pulse at the wrist is proportionally affected.* I do not say that we are to look on every case of pulsation of the abdominal arteries as the consequence of enteritis or fever, but where we find it occurring thus in fever, we are to conclude that it is indicative of disease in the bowels. We have constantly noticed this pulsation of the arteries of the abdomen to subside after the application of leeches; we have also seen it decline and increase in proportion to the existing disease; and I think we have many circumstances to prove and warrant us in concluding that it accompanies the disease of inflammation of the mucous membrane.

Another point which I look upon as somewhat new, is presented by this man's case. He had incessant thirst, but his desire was for warm drinks, and he refused cold. We may found a part of our diagnosis on this circumstance. In cases of acute gastric inflammation, patients are harassed by a burning thirst, there is an urgent desire and a constant demand for fluids, but these must be cold, the sufferer generally refuses all others. You will see in any work on toxicology, that in cases of poisoning by corrosive substances, which is only another form of acute gastritis, there is an insatiable desire for cold drinks. In the present instance we find our patient complaining of great thirst, but he prefers warm drinks, and never uses fluids in a cold state, a peculiarity from which I am led to infer that he has no gastritis, but that the inflammation is seated lower down in the digestive tube. When the inflammation is seated, say in the ileum, we have it in a part of the tube less sensible than the stomach. There is the desire for fluids, but not the demand for cold fluids. But when the stomach is the seat of disease, there is both the desire for fluids and relief from the direct refrigeration of the suffering organ. Another important subject for consideration may be noticed in this case. He has had all through his illness more or less tympanitis, a circumstance to which I am anxious to call your attention, as connected with it is one of the worst errors in practice. From a dangerous habit of prescribing without taking the trouble of searching for causes, and from the universal leaning to specificism in medicine, many practitioners are in the habit of giving the spirits of turpentine when called to attend cases of this kind. Several cases have, indeed, been relieved by this plan of treatment, but I deny that tympanitis occurring in the acute stage of fever has ever been relieved by spirits of turpentine. We are to consider the tympanitis of acute gastro-enteritic fever as one of the consequences of inflammation, and its removal is to be effected only by removing the exciting cause. Can this be done by direct stimulation of an inflamed mucous surface with spirits of turpentine? Certainly not. If we give spirits of turpentine, the patient is purged, (frequently with great violence,) the tympanitis, too, disappears, but the next day we find a manifest increase of fever and thirst, the abdomen is more tender than before, and the tympanitis returns. You may give another dose, but if you do the fever assumes an alarming aspect, marked by the supervention of coma and delirium. Tympanitis we should always consider as one of the symptoms of acute inflammation, and never give turpentine in the commencement of the disease. In the ad-

vanced stage of the disease, where turpentine may be employed with benefit we find the tongue soft, and the abdominal tenderness inconsiderable, and here the safest mode of employing it is by injection.—*London Medical and Surgical Journal, July 20th*, 1833.

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18. *On Delirium Tremens.* From Dr. Stokes Clinical Lectures.—Delirium tremens is generally treated in a very empirical way. What is the general treatment of this disease in these countries? It is stimulant. Patients who are attacked by it, are universally ordered stimulants; whiskey, wine, brandy, and porter are the usual remedies employed; stimulation by ardent liquors is carried to the highest pitch, and in their administration confidence is placed, but any of the senior students, who have attended other hospitals, and seen the consequences of such treatment, must acknowledge that its result is too often fatal. It is, at least, an undoubted fact that many persons die under this plan of treatment, and we should therefore pause before we enter on it, and carefully investigate the peculiar symptoms and history of each case, and endeavour to ascertain whether such a line of treatment be consistent with sound pathology or not. It appears to me that a common source of error lies in not sufficiently distinguishing the causes of delirium tremens. It is an important law of pathology that similar symptoms may arise from very different causes; we have this exemplified every day in practice: we see the phenomena of inflammation of the brain arising in one case from the presence of too much blood in that organ, in another from an anemic condition. In the same way we may have the ordinary symptoms of hypertrophy of the heart from too much or too little blood.

It would appear, that in some cases of delirium tremens much benefit has been obtained from the administration of stimulants, and on this an erroneous practice has been founded, all cases are considered alike, and all are treated in the same way. My experience, with respect to the treatment of delirium tremens, is as follows: I divide all forms of the disease into two classes, one in which the delirium is the result of an immense debauch, another in which the patient has been in the habit of using ardent spirits in quantities, and has suddenly given up their use. In the former case the disease appears to be the result of excess, in the latter of a want of the customary stimulus. It is a common custom for persons in this country, particularly in the lower classes of life, to take a periodic fit of drinking, or, as they phrase it, to be *on* for drinking. They continue for perhaps a fortnight in a state of constant intoxication, and get delirium tremens from excessive stimulation. Another cause is this; a person who is in the habit of taking a great quantity of whiskey-punch every day happens to meet with an accident; he gets, suppose, a broken leg, he is debarred from the use of his usual stimulus, and the consequence is delirium tremens. Now when a person happens to have an attack of this kind, from a deficiency of his customary stimulus, the exhibition of wine, brandy, or whiskey is certainly productive of benefit; but when it arises from excess are we to continue the use of stimulants? Certainly not. In a case of the former kind we derive very great advantage from the use of stimulants. We cure our patients principally by means of opium, brandy, and wine, but I must confess, on the other hand, that I have never seen a case of excessive stimulation benefited by such a plan of treatment, nay, more, I have seen many patients, who have been treated in this way, die with symptoms of inflammation of the brain, or stomach, *and have found the diagnosis afterwards verified by dissection.* In all cases where delirium tremens has been the result of excessive stimulation, we have found in this hospital, that the most decided advantage has resulted from an opposite mode of treatment, and that we were able to effect a cure by keeping our patients on a strict antiphlogistic diet, and applying leeches to the epigastrium, followed by an opiate. You are aware, that Broussais first announced the doctrine, that delirium tremens was only an acute gastritis. This I believe is not true; but in a great many instances I believe there is a great deal of gastric irritation, and that much good may be done by relieving it. In some cases, which

have been treated in this hospital, *we have succeeded in* (immediately) *bringing on sleep in removing the tremors and mental aberration, in fact, in restoring the patient to a state of health by the application of leeches to the epigastrium, without any other treatment.* If a patient be in a state of excessive stimulation, you can easily conceive what organs are most likely to be affected, and you can pathologically explain the injury done by the use of stimulants. The rule I have laid down for myself is this; where the disease proceeds from a deficiency of stimulus, give wine, brandy, opium, &c., but where the stimulation has been excessive, apply leeches to the epigastrium and head, and if the disease still continues then you may have recourse to the opiate treatment.—*Ibid.*

19. *On the Efficacy of Dry Cupping in Various Diseases.* By R. J. Graves, M. D. Extract from a clinical lecture at the Meath Hospital.—I begin this day's lecture with some observations on dry-cupping, of which you have witnessed the trial in two or three cases at present in hospital. Most of you, I presume, are aware that dry-cupping has been lately recommended to the notice of the profession in a very ingenious and valuable paper published by Mr. Roberton of London; and, as it is a subject deserving of serious and interesting investigation, involving many considerations of practical importance, it will be necessary to notice it briefly, and offer some hints respecting its applicability to various forms of disease.

Dry-cupping is a remedy not by any means of modern invention; it was known to Hippocrates and Aretæus; and, in succeeding times, among the nations of the European continent and in the British dominions it was very generally employed, and formerly enjoyed the reputation of being a very fashionable remedy. Of late, it has fallen very much into disrepute; it is now very seldom employed, though some persons still use it, in hospitals and public institutions, where clinical experiments are conducted on an extensive scale. Mr. Roberton has attempted to revive this practice, and has proved that dry-cupping is a very valuable remedy, possessed of curative powers shared by no other therapeutic agent, and capable of being applied with advantage where the ordinary means are perilous or inadmissible.

Some time ago, Mr. King, of Stephen's Green, related to me the particulars of a case which exhibited, in a very remarkable manner, the benefit derived from dry-cupping. It was a case of hysterical vomiting, in a lady, for which every known remedy had been tried without any favourable result, and which was completely arrested by the application of dry-cupping to the stomach and margins of the ribs. This may appear strange to you, and you may be inclined to ask, how it is that a change in the condition of the integuments of the abdomen can affect the stomach? In reply to this I would ask, in inflammation of the stomach, whether acute or chronic, why is it that the application of leeches to the integuments relieves the gastric affection? In the latter, the result is equally strange as in the former instance; the circulation of the stomach is totally distinct from that of the integuments, and yet we have no remedy so efficient in relieving gastric inflammation as leeches, applied to the integuments of the epigastrium. Taking away blood from the surface produces a change in the circulation of the internal organs; detaining blood in the integuments in the neighbourhood of any viscus, acts also on the internal circulation, and effects a corresponding change. Let us investigate this more minutely.

A cupping-glass is applied to some part of the body, and the air contained within it is exhausted by means of a syringe or by heat. In either case the integuments of the part are forced up into the glass by atmospheric pressure, so as to form a hillock, in which a considerable quantity of blood is detained, remaining in the capillaries of the part, and being, as it were, cut off from the general mass of the circulation. The experiments of Dr. Barry have proved the detention of blood in that portion of the integuments submitted to the action of the cupping-glass, and that the quantity so detained does not pass into the general circulation or partake in its changes. Now, if a given portion of

skin has, in consequence of morbid action, an unusual quantity of blood thrown into it, and cupping-glasses are applied to the integuments in its vicinity, you draw off a great quantity of blood into the portion which you cup, and that part which presented an unusual quantity, in consequence of morbid engorgement, may be, *pro tempore*, drained, and may, during the period of this application, make rapid progress towards health. The same observation holds good when you cup over an internal organ in a state of inflammation. You must be aware of the practice of tying arteries which go to tumours of various kinds, and that the application of the ligature has frequently proved successful in arresting the peculiar inflammatory process by which such morbid developments are accompanied. Now, cupping acts as a kind of temporary ligature on the vessels of the part to which the glass is applied, including even the capillaries; and it is in this way that it tends to prevent the absorption of poisons locally applied.

Having said so much about the application of cupping-glasses, their *modus operandi*, and their action as local applications, let us see how far the principle may be pushed, and also whether this mode may not be applicable to local affections alone, but also act on the general circulation in such a manner as to produce those effects which are commonly attained by different means. Dr. Arnott, in vol. i. p. 574, of his work on the "Elements of Physics," makes the following important observations on this subject:—"Reflection upon these circumstances led me to think that, in certain cases, the beneficial effects of blood-letting might be attainable by the simple means of extensive dry-cupping; that is to say, by diminishing the atmospherical pressure on a considerable part of the body, on the principle of the cupping-glass used very gently, and thus suddenly removing for a time, from about the heart, a quantity of blood, sufficient, by its absence, to produce faintness. The results of trial have been such as to give great interest to the inquiry, and the author's leisure will be devoted to the prosecution of it. An air-tight case of copper, or tin plate, being put upon a limb, and made air-tight by a leathern or other suitable collar, tied at the same time round its mouth and the limb—on part of the air being then extracted by a suitable syringe, in an instant the vessels all over the limb become gently distended with blood; and, as the blood is suddenly taken from the centre of the body, faintness is produced, just as by bleeding from a vein. The excess of blood may be detained in the limb as long as desired, for the circulation is not impeded. To produce a powerful effect with a slight diminution of pressure, more than one limb must be operated on at the same time." From this it appears, that if you take the whole arm or leg or thigh of a man and place it under this machine, then exhaust it of air, and detain one or two pounds of blood in the integuments, the same quantity is abstracted from the heart and general circulation, and the effect produced is the same as if you had suddenly drawn blood from the system to this amount. The strongest man will faint if you cup both legs. I think this view of the subject opens new ground in the field of practical medicine. You are all well aware of the effects, the truly beneficial and admirable effects of blood-letting, and you know also, that these depend not so much on the quantity of blood lost as on the impression produced on the general system. If we have to deal with an extensive and violent inflammation, we do not abstract blood by a minute opening, we make a large orifice, or we open a vein in both arms at the same time, we place the patient in an erect posture and endeavour to produce deliquium. It sometimes happens that the patient faints from fear, or before any considerable quantity of blood has been lost, and this faintness, as Dr. Arnott remarks, answers as well as that which results from venesection. This I can also testify, for I have seen all the good effects of bleeding, produced by the terror with which the operation frequently inspires persons of delicate or nervous temperaments. Now, by the machinery before described, a machinery by no means complicated, you are able to produce with certainty, such a powerful effect on the general vascular system, as to obtain all the benefit derivable from general blood-letting. Dr. Arnott mentions another but more objectionable way of attaining the same purpose,

and one which is inferior in efficiency to the mode detailed. If you apply a bandage pretty tightly over the upper part of a limb, suppose for instance round the thighs, so as to prevent the return of blood through the veins, and then put the legs into warm water, the quantity of blood detained in the lower extremities will be such as to make the patient faint. This mode may be useful on some occasions but it is inferior to dry-cupping, and can only be applied to the extremities. There is another and very important point relative to the employment of dry-cupping, which stamps additional value on it from its applicability to cases calculated to excite much solicitude and anxiety in the mind of every practitioner. You have often seen cases of inflammation, in which our sole hope of safety, or even life, depends on checking the inflammatory process, when we stand doubting or perplexed, balancing the possibly fatal effect of blood-letting on a sinking frame, with the slower but, perhaps, more certainly calculated close of an inflammation, which attacks some vital organ, and affects the very sources of existence. If, in such circumstances, we could produce results similar to those which accompany venesection, would it not be a very important desideratum? Now, the employment of dry-cupping holds out to us a fair prospect of attaining this end, of cutting short a menacing inflammation in that particular state of constitution where blood-letting is a perilous experiment, and regulating the errors of morbid action without having recourse to the customary shock of sanguineous depletion. I do not know any better or more valuable auxiliary in the practice of medicine than this, or one which is capable of greater extension and improvement. There is not a single practitioner who does not remember how often he has been forced to bleed when he knew that he was doing so at the risk of his patient's constitution and life; there is no one who has not, on such occasions, anxiously sought some other means of accomplishing the same purpose; and as this is promised by the employment of dry-cupping, I think this matter should become the subject of extensive clinical experiment, and that no time should be lost in proceeding to investigate the true properties of a remedy, which is likely to open a new era in medical practice. Cupping-glasses might be made of convenient shapes, for applying them along the inside or outside of the thigh or arm, and might be so large that, with the aid of a syringe, the intended effect could be produced in a few minutes. With regard to their operation in cases of local disease, I think we cannot extend their use too far. There are many cases of hysterical neuralgia, sometimes affecting the side, sometimes the spine, and other parts, which hitherto we have treated by bleeding, leeches, stupes, liniments, and blisters. Fomentations and liniments sometimes succeed in removing this affection, so do leeches, but frequently both fail, and we are obliged to blister, which often produces great irritation, without being attended by any decided benefit. Here it is very probable, that we would derive very great advantage from dry-cupping in the neighbourhood of the affected part. There is one form of this disease to which it is peculiarly applicable. The most annoying thing, perhaps, about which a medical man is consulted, are the head-aches of young ladies. These are varied and numerous beyond conception, generally connected with some menstrual irregularity and derangement of the intestinal canal, and forming a class of disorders which would require a good monograph more than any other I know of. Many practitioners get into disgrace with ladies on this account, and, as a natural consequence, with the community in general. Bleeding here is of very little use, and gives only a temporary relief, or even in many cases aggravates the existing symptoms. The best plan of treatment is to regulate the menstrual secretion, and attend to the state of the bowels. But I will say no more on this subject, for I might lecture on it without end. As to the head-ache, if you leech they get worse afterwards, if you apply cold lotions the same result; the best thing you can do, in my opinion, is to apply dry cupping-glasses to the back of the neck and between the shoulders.* Let us see what

* Dr. Graves has expressed his opinions on this subject more fully in a paper which will appear in the forthcoming number of the Dublin Medical Journal.

has dry-cupping done in those cases which have been treated with it in hospital. A man of the name of Ryan, who has been a long time in hospital, suffering from violent pains, produced partly by rheumatism and partly by neuralgia, complained of very severe attacks of pain in the lumbar region, lower part of the belly, and thighs, but particularly in the lumbar region, on one side of which the pain and tenderness was excessive. This man had been mercurialized and blistered, he had 100 leeches to the affected parts in eight different applications, he had been stuped repeatedly, he had all manner of liniments and internal remedies I could devise. He was certainly somewhat improved by this treatment, but not so much as I wished. Well, this man has received the most marked benefit and relief of his sufferings from dry-cupping over the seat of the disease.

Another man, named Eustace, who had sciatica, which was cured by acupuncture and afterwards returned, experienced considerable advantage from this remedy. In the case of a women above in the fever ward, labouring under bronchitis, we have observed an amelioration of the pectoral symptoms after the application of dry-cupping. It appears to me that cases of pain and tenderness are not the only ones to which dry-cupping is applicable, but that we may employ it also with hopes of success in congestion of internal organs. Cupping over the chest, I think would diminish if not cut short the paroxysms of spasmodic asthma, of tussis senilis, and of the acute suffocative catarrh. In bronchitis with emphysema, it would relieve the congestions of the lungs, and lessen the dyspnœa; and in the violent suffocating bronchitis of children soon after birth, it seems to be particularly valuable from its rapid effects. In the tremendous and fatal dyspnœa which accompanies this affection in children, bleeding and leeches are objectionable, from the danger attendant on them, and from their tedious operation, and are decidedly inferior to the prompt and efficacious agency of dry-cupping, which is free from any danger. You will be convinced that I do not overrate the value and advantages of dry-cupping, when you recollect the case of a man in the hospital who has empyema of the left side of the chest. In this case, which will be spoken of by my colleague, Dr. Stokes, the whole of the cavity of the left pleura is filled with matter; the heart has been pushed to the right side, and the man breathes only through his right lung. Now this man got bronchitis in his only sound lung, and you can easily perceive what danger he was in. It is obvious, that in such cases, from the long duration of the disease, the immense quantity of pus in the pleural sac, and the weakness of the patient's constitution, bleeding could not be employed without much hazard. We had recourse to small doses of tartar emetic and extensive dry-cupping over the chest. The result of this case, which I could not have treated so advantageously a fortnight ago, is very encouraging, for you have seen the relief this poor man obtained. It may seem to you that I am disposed to think too highly of a remedy, the properties of which are at present but little known; but, as I have stated to you before, its properties seem to be analogous to those of general and local bleeding, and it is of the utmost importance to investigate its effects thoroughly, and see if it is capable of the same application, and likely to be attended by similar results, or, if there be any differences in applicability, to know where the one and where the other may be employed with the greatest propriety and success.—*Lond. Med. and Surg. Journ. April 27th*, 1833.

20. *Severe Case of Hydrocephalus terminating in Recovery.*—An interesting case of this is recorded by Dr. Traill, in the first volume of the *Provincial Medical Transactions*. The subject of the case was a child, twenty months old, who became the patient of Mr. Reay, on the 24th of April, 1830, labouring under a slight remittent febrile attack, with some cough and occasional fits of screaming. Mercurial purgatives were given, but squinting supervened, and on May 14th, Dr. Traill was called in. The child was now very hot, with a rapid pulse; the alvine discharges ill digested and extremely offensive; the abdomen, though not tumid, felt *doughy* or inelastic; the tongue was furred; there

was no marked impatience of light, the pupils regularly contracted, but the child occasionally screamed, without apparent cause, and the urine was scanty. "He had cut all the incisors, the canine teeth, and four of the first molares; smart doses of calomel and jalap, with a mixture containing squill, were prescribed, while the head was ordered to be kept cool by an evaporating lotion. At 1 A. M. of the 16th, the child had a severe convulsive fit. *Gums divided over the molares—enemata—leeches to the temples—warm bath—castor oil.* On the 17th, more symptoms of cerebral affection—impatience of light; frequent screaming; convulsive twitches of the limbs—*leeches, blister between the shoulders, evaporating lotion to the head, calomel and jalap in repeated doses.* The blister was dressed with the ung. hyd. On the 19th there was strong strabismus; pupils much dilated, and nearly insensible to light. Yesterday and to-day all the other bad symptoms were increased; screaming more frequent; left side seemed paralytic, while the limbs on the right side were frequently and convulsively agitated. *Hyd. c. cret. thrice daily.* On the 21st the blister was repeated and castor oil given. On the 22d, the pulse which had previously been generally rapid, was now between 70 and 80. *Cold applications to the head omitted.* On the 23d the urine was nearly suppressed, the eyes insensible to light. *Calomel and jalap—nitre whey.* On the 24th, moaning and screaming, urine very scanty, one side, (not stated which,) quite paralytic, the other constantly affected with convulsive twitches. *Blister with ung. hyd. repeated—castor oil, and enemata.* On the 25th, the child began to be under the influence of mercury, and the blistered surface was highly inflamed; convulsive motions less violent. From this time he continued slowly to improve. On the 1st of June, strabismus still continuing, the eyes appearing to be yet insensible to light, and the pulse being below 70, rather irregular, diuretics were continued, and a small blister was applied to the vertex, over the fontanelle. On the 4th, the urinary secretion was copious and the strabismus diminished. On the 5th the blister was repeated. Soon after the 11th of July he was in vigorous health, and he remains free from complaint.

It is interesting to trace the successive phases of this affection—first, derangement of the bowels, pyrexia, slight affection of the thoracic organs, marked by cough: and of the head, evidenced by screaming—secondly, the head more decidedly affected, marked by increase of fever, a tendency to squinting, occasional screaming; probably inflammatory action of the arachnoid or substance of the brain was now going on—thirdly, increase of cephalic affection, shown by convulsions and convulsive twitchings of the limbs, impatience of light, more frequent screaming; probably effusion was now commencing, and the vessels were much loaded, for convulsions, after injuries of the head, are generally found to depend on moderate pressure—fourthly, symptoms of decided pressure, evinced by the subsidence of the pyrexia and the paralysis. He who carefully considers cases in this manner—who groups the symptoms, and calculates not merely what the name of the disease is, but what are the particular functional conditions or organic changes producing those groups, will be the philosophical and successful practitioner."

We particularly recommend to our readers the following remarks of Mr. Traill; we have ourselves so invariably seen the worst effects follow severe blistering to the scalp in hydrocephalus, that we can scarcely think of the practice without horror. "In the treatment of such cases, I have, for several years, discontinued the application of severe blistering to the scalp, which was once a very general practice; from having observed little benefit from that mode of treatment, and having, in some cases, thought that it tended to aggravate the symptoms. I have, of late, applied the blisters more frequently to the nape of the neck, under the impression that the inflammatory state of the brain was more certainly combated by deriving the fluids *from the head*, than by increasing the activity of the vessels of the scalp; while the application of cooling lotions, at the nearest possible point to the seat of the inflammation, has appeared to me a more successful method of treating this very fatal disease. With this mode of local treatment, I have long been in the habit of conjoining the ab-

straction of blood, either by leeches or the lancet, according to the age and strength of the patient; and, as the influence of mercurials in controlling inflammation, and in promoting absorption, appears to me well established, I usually endeavour to induce a constitutional effect, in such cases, as speedily as possible, both by giving it internally, and applying it as a dressing to the vesicated surfaces. Indeed, I believe that mercury will, in this disease in particular, enter the system much more readily by cutaneous absorption than by the lacteals. As pressure on the brain would seem more quickly to paralyze activity of the absorbents of the alimentary canal than of the *dermoid* surface, probably because of the immediate dependence of the former on the great sympathetic nerve. In the case about to be given, these were the indications which were chiefly followed."

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21. *Inflation as a Remedy for Obstructed Bowels.* By John King, Jr. Esq.—The importance of inflation as a remedy for obstruction of the bowels, appears to me not to be sufficiently appreciated at the present day. It was first recommended by Hippocrates for the removal of intestinal obstruction; in more modern times, it has been resorted to by Hoffman and Haller; and notwithstanding the neglect it has since experienced, I cannot but regard it as worthy of an eminent position in the list of therapeutic agents. The treatment usually prescribed in cases of ileus or colica (without inflammation) is very discordant, as witness,—warm baths, fomentations, injections of warm water and oil, rubefacients, and blisters,—contra—cold effusion and immersion, freezing lotions, pounded ice and snow; not to mention emetics, purgatives, and mechanical distention by warm fluids, quicksilver, gold and silver balls, &c.—and when all these remedies have failed, blood-letting, tobacco, in infusion and smoke, and lastly, gastrotomy. Yet this simple means of inflation, although probably the most powerful, and the least dangerous, is entirely overlooked. It paralyses, as it were, the constricted fibre of the bowels, and may be used in the following cases, if not with complete success, at least with advantage, viz. the various kinds of colic, proceeding from torpidity, spasmodic constriction. viscid meconium in new-born infants, impaction, bezoards, and other intestinal concretions, volvulus or intus-susceptio, and some cases of hernia. It was a happy thought of those who hit upon this means in the hour of danger, after all their other efforts had proved nugatory. For although tobacco, which is often used as a last resort, sometimes is successful, it is not uniformly so, and it too often happens, that the patient, rather than undergo a repetition of it, beseeches to be allowed "to die in peace." We may also observe the hesitation with which the practitioner has recourse to it, not only because of its doubtful efficacy, but on account of the danger there is of greater exhaustion being produced by it. I take the liberty of giving one case, as I conceive it may give some idea of the power of inflation.

In September, 1829, I was requested to visit Mrs. G. æt. 26, of rather delicate frame. On the night previous to my visit, she experienced an uneasy sensation in the region of the stomach; for which, she took eight grains of calomel combined with a half-drachm of compound powder of jalap, without any impression on the bowels. During the night this uneasiness increased to an almost intolerable pain, accompanied with obstinate vomiting, which continued till the evening, when I saw her. In the course of the day she took two doses of castor oil, and received five injections. When I entered the apartment, she was sitting near the fire, and her body bent forward; the face was wan, hollow, dejected, and of a dingy-yellow colour; the surface of body and extremities inclining to cold. Pulse 80, soft and much compressed—tongue, at the back part, covered with a brownish-coloured mucus—she had obtained no alvine solution for six days. She took no notice of my being present, or of any thing going on around her, but informed me, when questioned as to the seat and kind of pain, that it was of "a violent screwing nature, working between the stomach and navel," coming on in paroxysms, and ending in or producing vomiting. I ordered the

warm bath, and gave a teaspoonful of laudanum with compound spirit of lavender, which was soon afterwards vomited. Upon this, an effervescing mixture was given, then five drops of croton oil with some laudanum, and in about three-quarters of an hour, five drops more without laudanum: but each in its turn was rejected, with a quantity of yellow-coloured fluid. It was at this time, I first thought of inflation. For this purpose, I procured a pair of common bellows, and securing the bladder of a glyster-bag to the nozzle of the bellows, the pipe was introduced into the rectum, while the patient lay on her right side, and the bellows was commenced being wrought. As soon as the air entered the rectum, the effect was immediate and satisfactory; the countenance lost its anxiety, the eye brightened, and the patient said she felt quite relieved. A gurgling noise was heard in the bowel, with an escape of fœtid air; and in about a minute from the time the air began to enter the rectum, she requested to be allowed to go to stool. She had a copious dejection, and a good night's rest; and next morning complained only of being much enfeebled, but was otherwise well.

I was deeply impressed, about five years ago, with the fatal result of a case of intus-susceptio, in a fine robust infant, six months old; which was supposed to proceed from the effects of half a teaspoonful of some syrup of poppy, made, as is commonly done, with opium, given for the purpose of procuring sleep during the period of teething. About eight hours after it was given, the child began to cry vehemently, having appeared restless and uneasy for several hours previously. Early in the forenoon, it passed a very scanty stool, streaked with blood; soon after this, vomiting commenced, which continued until the little sufferer sunk. Is it unreasonable to imagine that if inflation had been used in this case, the result would have been otherwise? I was hereby shown the necessity of seeking more powerful means, than fluid injections, et cetera. And I hope, as I firmly believe, that inflation with common air is the necessary desideratum. I conclude with Dr. Cheyne, that 'a man dying of ileus, presents one of the most pitiable sights in nature;' and a leading object of this paper is to remove a part of the horrors of the scene, by withholding many of the bitter doses, which are forced upon him by the solicitude of his friends, and the officiousness of his physician."—*Glasgow Med. Journ. February*, 1831.

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22. *Efficacy of Iodine in Dropsy.*—Dr. William Stokes, in a Clinical Lecture delivered at the Meath Hospital some time since, offered some remarks relative to a young woman affected with dropsy, which we transfer to our pages from our esteemed cotemporary, the *London Medical and Surgical Journal.*

This case, Dr. S. observed, illustrates well the truth of the proposition, that dropsy is not to be generally considered a disease *sui generis*, but as the result of some other disease, and that in order to effect its cure, we must carefully investigate its nature and ascertain its cause. The mere symptomatologist endeavours to remove it by the ordinary means, but we must accurately explore its cause, before we can hope to treat it with success. The history of this young woman's case is, that she had, some time since, an attack of acute peritonitis, that on the subsidence of this she had diarrhœa, and again symptoms of subacute inflammation of the peritoneum. She also had an attack of bronchitis, and afterwards became anasarcous with enlargement of the belly. Here, gentlemen, we have here in the first place inflammation of the serous membrane of the digestive tube, then of its mucous coat, and afterwards of the membrane lining the respiratory apparatus. Considering the origin of the complaint as consisting in a subacute peritonitis, we determined to treat it accordingly; she was blooded, leeched, and blistered, and then we had recourse to iodine. We are rubbing with iodine ointment, and she is taking internally one grain of iodine and eight grains of the hydriodate of potash daily, dissolved in two pints of distilled water. This solution, called the iodine mineral water, is an excellent remedy, and under its use you have seen that the size of the abdomen has been very much reduced, and the patient materially improved. In cases of this kind I have witnessed numerous instances of the value and efficacy of iodine, and can

recommend it strongly. A medical gentleman related to me some time back the particulars of a remarkable case of the wife of a respectable person who had ovarian dropsy to such an extent that her life was despaired of. Her belly was so enormously swelled, that at first sight he thought she had pillows over it. As he was called in, he, of course, wished to do something, and having recommended the employment of iodine mineral water, went away, leaving, as he thought, the woman to her fate. Some weeks after this, her husband called on him to express his thanks for the relief he had afforded her, and stated that she was amazingly improved. He had forgotten the case, and wished to see her again. He found her up and dressed, the abdomen quite soft and compressible; there were, as well as he could ascertain, some floating tumours in it, but the enormous dropsical swelling had almost completely subsided. It appeared that some short time after she began to use the iodine, a copious diuresis came on, and since that time she has been in the enjoyment of very tolerable health, and though while she has those tumours her life is insecure, still no one, I think, will deny that existence has been prolonged and much good effected. It is my intention to give iodine a full and fair trial, and to ascertain its comparative value in the treatment of dropsy. There is a patient at present in the male ward, who has enlarged liver and spleen with ascites; he is using the iodine mineral water, but as yet has received but very little benefit. We shall however continue its exhibition, for it is frequently necessary to persist in the use of this remedy for a considerable time, and never give it up in despair until thoroughly convinced of its inefficacy.

OPHTHALMOLOGY.

23. *Restoration of Vision, in Cases of Staphyloma and Incurable Opacity of the Cornea.*—Mr. Nimmo has written an able paper on this subject in our Glasgow contemporary. His object is, to point out the means that have been recommended by German surgeons, and to weigh their comparative merits. We will glance at the operations, which are three in number. The first consists in a removal of a portion of the iris, adherent to the posterior surface of the cornea, in staphyloma;—the second, in the formation of an artificial pupil in the sclerotic;—the third, in the removal of the opaque cornea, and in substituting for it a pellucid cornea, transplanted from one of the lower animals.

Dr. Ammon, of Dresden, was led by considerations, to which we need not particularly allude, to propose the first operation in cases of staphyloma. By means of a hook, introduced into the eye through an opening made in a part of the cornea or sclerotic, at some distance from the most transparent part of the cornea, he proposed to separate more or less of the iris from the cornea, and thus enable the patient to distinguish the light more readily, if not to see. He tried this experiment in one case only, which proved unsuccessful, from chronic inflammation arising, and rendering the part more opaque than before. Mr. Nimmo mentions another case in which the operation has been tried, with indifferent success.

"To this limited experience, I am able to add but one case, which gives little encouragement to a repetition of such attempts. Archibald Gilchrist, nineteen years of age, was admitted a patient at the Eye-Infirmary, on the 12th November, 1832. He stated that he had suffered from small-pox about seven years ago, since which period vision has been totally extinct, a perception of light and shade alone remaining. The right eye was found to be totally destroyed, while the cornea of the left was in a staphylomatous condition. The cornea was white and opaque over three-fourths of its surface, a small portion, towards the upper and nasal edge retaining a partial transparency, so that the iris was seen in contact with and apparently adhering to its posterior surface. This case was one which might have been pronounced decidedly hopeless, but

it was determined to give the patient a chance of recovering a certain degree of vision, by removing as much as possible of the iris from behind the most transparent part of the cornea. A small incision was made through the lower part of the cornea, through which a hook was introduced, and an attempt was made to lacerate and remove the portion of iris already alluded to. It was found to be firmly adherent to the cornea, and it was not easy to say how much was separated, as some blood was effused and obstructed the view. The operation was not followed by any bad consequence; the wound in the cornea healed rapidly, and only slight pain was complained of for a day or two. In order to promote the absorption of the lacerated portions of iris, the tincture of iodine was given to the extent of thirty drops daily; and after the irritability which followed the operation had subsided completely, the solution of nitrate of silver was dropped on the eye once a day, in order to render the cornea, if possible, somewhat more clear. After a short time the patient left the hospital. The place where the iris had been lacerated was still opaque, and presented a dark mottled aspect. No improvement in *vision* had resulted, but the patient thought that his perception of light was somewhat increased. He was directed to continue the remedies for some time, and it is possible that some further improvement may take place."

This operation, unsuccessful as it has proved in these instances, is inapplicable to conical and racemose staphyloma, so that we need not expect much from it.

The second means—excision of a portion of the sclerotica, was originally suggested by the elder Autenrieth, who performed it on cats with much apparent success. We say apparent; for, as he killed the animals on the fourteenth day, a circumstance which has since been found to prevent the success of the operation, it could not be observed in that brief period. The first operation on the human subject was by Dr. J. B. Müller, at that time surgeon to the Ophthalmic Hospital of Reusberg. The patient was a soldier, who, in consequence of the Egyptian ophthalmia had the left cornea staphylomatous, and the right entirely leucomatous. The operation proved unsuccessful, a white opaque membrane gradually forming in the wound, and the patient becoming as blind as before. The experiment has been repeated by Beer, Himly, and Mr. Guthrie, without success. Dr. Ammon has made several attempts to restore vision in this manner, and Mr. Nimmo has extracted three cases from that author's work. We will give the first and the third, as samples of the difficulties and the results.

"Case 1.—On the 18th September, 1829, Dr. A. made his first attempt at the formation of an artificial pupil in the sclerotic, in presence of Dr. Martini, of Lubeck, Dr. Dieffenbach, of Berlin, and Doctors Hedenus and Hille of Dresden. The patient was a boy, 13 years of age, who had lost his sight soon after birth from ophthalmia neonatorum. The cornea of the right eye was staphylomatous, that of the left was rendered opaque by general leucoma, almost depriving him of even the perception of light. As there was a possibility of doing the patient good, and none of rendering his condition worse, it was determined to form an artificial pupil in the sclerotic of the left eye. The upper eyelid being raised by an assistant, and the eyeball being fixed by introducing a small hook through the conjunctiva close to the edge of the cornea, a semicircular incision was made with a cataract knife through the conjunctiva, near the temporal side of the cornea. The flap was dissected back with the curved scissors, and the bleeding, which was considerable, was suppressed by the frequent application of cold water. The flap of conjunctiva being held back by the assistant with a fine pair of forceps, Dr. Ammon now took a narrow-bladed knife, which he calls a *sclerotome*, and thrusting it through the sclerotic close to the base of the flap, carried it outwards to the distance of four or five lines, and then turned it downwards so as to form a flap. At this moment the patient made violent struggles to get free, the eye escaped from the hook, the lens, with a considerable quantity of vitreous humour, escaped through the wound, and the eye-

ball collapsed. The flap of sclerotic which had been formed was now removed with the scissors, and was found to bring along with it a part of the choroid coat. The bleeding which followed was not profuse, but continued for a considerable time, and finally yielded to the cold applications which were employed for the purpose of preventing subsequent violent reäction. No inflammation followed this operation. In the course of the next day the eye had recovered from the collapse, and was again distended with the humours. The edges of the opening in the sclerotic were turned somewhat inwards, and the flap of the conjunctiva had shrunk up, so as to leave uncovered a considerable portion of the opening. Round the wound of the conjunctiva was considerable ecchymosis. On the fifth day after the operation, the edges of the wound of the sclerotic began to suppurate, and the opening assumed a longish and narrow form, instead of its former quadrangular shape. A fine silver probe was easily introduced into the wound; this communicated to the patient a disagreeable sensation, and its removal was followed by the escape of some clear fluid, followed by a few drops of blood. Before this took place, the patient remarked that he could distinguish some large body in front of him. He could also perceive the motions of a hand before him, but could not distinguish the form of it. The flap of the conjunctiva had shrunk entirely, and covered no portion of the opening. From this period the wound gradually contracted, a fine membrane, subsequently becoming white and opaque, filled it up, and in the course of a year, the following was the condition of the patient:—'The eyeball was on the whole somewhat smaller than formerly, particularly in its upper portion. The place where the operation of sclerotomy was performed, presented a longish cicatrix of an ordinary aspect, covered by the conjunctiva. There was no unusual vascularity on the site of the cicatrix or around it. The sensibility of the eye to light was neither increased nor diminished.'"

"Case 3.—The patient was a young man, nineteen years of age, whose eyes were affected with conical staphyloma of the cornea, in consequence of an attack of puro-mucous ophthalmia in infancy. It is unnecessary to describe the steps of this operation, which was in almost every respect similar to the other. Immediately after the operation, the patient had a distinct perception of light; the bleeding was easily checked, and the flap of the conjunctiva was readily brought over the opening in the sclerotic. Cold applications were used, and neither inflammation of the eyeball nor of the eyelids followed. Next day a prolapsus of the vitreous humour was observed, which was clear and transparent. The flap of the conjunctiva had rolled back, and lay at the upper part of the opening. In a few days the surface of the prolapsed portion of the vitreous humour began to lose its transparency; it was covered by a thin, white membrane, to which minute vessels were seen to pass. This gradually became more and more opaque, and became continuous with the conjunctiva, while the humours from behind pressed it forwards, and gave it very much the appearance of a staphyloma of the choroid. The eye remains in this condition, and the patient expresses himself sensible of a considerable increase of perception of light and has frequently expressed a desire that a similar operation should be performed on the other eye." *

Few patients will be likely to submit to this operation, for the small chance of a modicum of vision which it offers. But it has been attempted to modify the operation, in order to obtain a transparent cicatrix in the sclerotica. Dr. Ammon has proposed to remove a portion of the sclerotica from behind, so that the conjunctiva shall never be opened at the site of the artificial pupil. This, he thinks, may be effected by a needle, with a cutting edge, introduced at some distance from the site of the intended opening in the sclerotic, care being taken to avoid cutting entirely out through the conjunctiva. So far as Mr. Nimmo knows, this operation has never been tried.

* "Another case, in which the operation was performed by Professor Ulmann of Marburg, is recorded in the second volume of Ammon's Zeitschrift fur die Ophthalmologie, p. 123. The result was similar to that of Dr. A.'s cases."

Dr. Wutzer, professor of surgery in Bonn, has proposed another modification. He would make the opening in the sclerotic in the original way, then pare away a thin piece from the surface of the cornea at its most transparent portion, and leaving it attached by a single point, turn it round as in the operation of making an artificial nose, fit it to the opening in the sclerotica, and secure it in its place with a fine suture, in the hope of its adhering and remaining transparent. Mr. Nimmo is not aware of this having been tried, and the operation does not promise much.

The third operation which has been proposed for opaque cornea, is its removal and the transplantation of the transparent cornea of one of the inferior animals. It was suggested by Reisinger, has never been tried on man and has not succeeded in brutes. Dr. Dieffenbach, fearing that the transplanted cornea would not unite, offers a modification of the operation. He leaves the original cornea untouched in the first instance, makes an incision *round* it through the conjunctiva, fits into this the edge of the cornea of a pig, and secures it with a fine suture. Should adhesion take place, an incision is to be made through the artificial cornea, and a portion of the opaque cornea to be removed with the knife and scissors.

We need not be at the pains of discussing these suggestions. This joiner's work is not altogether adapted for the eyes of living persons.—*Med. Chirurg. Rev. July*, 1833.

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24. *On Xeroma Conjunctivæ.* By William Mackenzie, Lecturer on the Eye in the University of Glasgow.—Agnes M'Kinnon, aged twenty-six, applied at the Glasgow Eye Infirmary, on the 26th of March, 1833, under the following circumstances:—

Both conjunctivæ are red, and have evidently suffered from long-continued inflammation. The right conjunctiva especially is of a dark-red colour, and, where it passes from the lower eyelid to the eyeball, of an olive hue, from the frequent use of nitras argenti in solution.

The left conjunctiva has the appearance as if it were skinned over, being in many places of a whitish colour, and, on the inside of the upper lid, looks as if it had suffered cicatrization. It is altogether drier than natural, and seems almost destitute of its proper mucous secretion. The patient says that this eye waters much less than the right. At the nasal extremity of the left lower lid, there is a tendency to symblepharon; the conjunctiva, when the patient turns the eye upwards and outwards, forming a frænum, which prevents the free motion of the eye. There is slight inversion of the left lids, with some inverted eyelashes rubbing on the surface of the eyeball. Numerous red vessels are observed winding over the left cornea.

She says that she has been subject to attacks of ophthalmia for eight years; the first attack being in the left eye, in consequence of a stroke with a shuttle. The conjunctivæ were never scarified, nor rubbed with solid caustic; and she never had any operation performed for the inverted state of lids, except pulling out of the faulty eyelashes. Tongue clean; bowels regular.

The inverted eyelashes were removed, and she was ordered to bathe the eyes thrice a day with a tepid solution of ten grains of murias ammoniæ and twenty of gum arabic, in eight ounces of water.

The above is an example of a very peculiar state of the conjunctiva, the result of long-continued and ill-treated inflammation of that membrane. It has been described by Mr. Travers, under the name of *cuticular conjunctiva*. He mentions,* that he had seen cases of this conversion of the conjunctiva into a rugous and opaque skin, go the length of knitting the lids close to the globe, and obliterating the sinus palpebralis. While he places it among the sequelæ of chronic inflammation of the conjunctiva, he considers it as immediately depending on an obliteration of the lachrymal ducts; a view of the subject which

* Synopsis of the Diseases of the Eye, p. 120. Lond. 1820.

had been taken long before by Schmidt, of Vienna,* who describes the disease under the name of *Xerophthalmos*.

The most recent, and hitherto the most complete, account of this diseased state of the conjunctiva, we owe to Dr. Ammon, of Dresden, one of the most original and ingenious ophthalmalogical inquirers of the present day.† He acknowledges, however, that the first case of the disease which he had an opportunity of examining, was pointed out to his attention by Professor Jäger, of Erlangen; who, in one of his Clinical Reports, had spoken of this affection of the eye under the name of *Ueberhäutung der Conjunctiva*.

The principal symptoms of *xeroma conjunctivæ* may be gathered from the case of M'Kinnon, as above related. I may add, however, a few remarks, embodying what seems most interesting in Dr. Ammon's paper.

1. *Symptoms.*—Although, in general, the conjunctiva presents a dark-red colour, and has a thickened, rugous, and dusky appearance, it is sometimes whiter and less vascular than natural. It is always drier than in the healthy state, and looks as if it were skinned over. The caruncula has a dry, smooth, flat appearance, is sometimes whiter than natural, and is often scarcely recognisable. The puncta are generally contracted, or closed; sometimes, however, dilated and paralysed. The cornea is dull and nebulous, with red vessels running through its conjunctiva. There is generally a considerable degree of entropium, with trichiasis, frœna approaching to symblepharon, and not unfrequently the conjunctiva is observed to fall into folds around, and especially above the cornea. If the conjunctiva is touched with the finger, it betrays scarcely any sensibility. When cold or warm water is dropped upon the eye, no sensation seems to be produced. The patient complains of a feeling of dryness, and sometimes of sandiness in the eye. If he tries to weep, no tears flow, but the effort makes the eye red and painful, while no such effect is produced on the sound eye.

2. *Causes.*—Long-continued inflammation of the conjunctiva always precedes xeroma; and in the course of that inflammation it seems indubitable, both from the aspect of the membrane and the other symptoms, that the secretory structure of the conjunctiva is altered, and its power of forming mucus thereby partially or entirely lost. The kind of inflammation most apt to lead to this change, in the conjunctiva, is the strumo-catarrhal; but it may also follow any chronic conjunctivitus—strumous, catarrhal, or contagious. Dr. Ammon suggests, that granular conjunctiva subsiding, is apt to leave the conjunctiva disposed to fall into xeroma. I am inclined to think, however, that the most frequent origin of this disorganized state of the conjunctiva is either a totally neglected strumo-catarrhal ophthalmia, or one treated only with stimulants—such as the golden ointment, the black ointment, and the like. Instead of abating the inflammation by proper soothing and emollient applications, and by the local detraction of blood, it has unfortunately become a too common practice to use only stimulants and escharotics, and some of these so strong that they actually destroy the mucous texture of the membrane to which they are applied; an effect which is followed, after some time, by the conversion of the conjunctiva into a mere cuticular covering. I have seen the mucous membrane of the tongue partially changed in the same way, so as to present numerous white, skinny, unalterable patches. Saturnine applications are probably, in many cases, the cause of xeroma; for if the least excoriation exists on the conjunctiva, the lead, precipitated by the muriatic acid which exists in the mucous and lachrymal secretions, instantly fixes on the excoriated spot, rendering it white and dry, and is very rarely removed. Hence liquor plumbi, Goulard water, and the like, are never used in good ophthalmic practice, however slight the affection of the eye. They are still, however, amongst the favourite applications of the vulgar.

Dr. Ammon, finding xeroma often attended by entropium, has come to the conclusion that the operation of removing a fold of skin, for the cure of the

* Krankheiten des Thranenorgens, p. 55, 1803.
† Zeitschrift fur die Ophthalmologie, vol. i. p. 65. Dresden, 1830.

latter, may often be the cause of the former; the incision being made too deep, and the consequent inflammation extending to the lachrymal ducts. But it is a sufficient answer to this notion, that we meet with this disorganization of the conjunctiva in subjects who never have undergone any such operation, or even in some who have had no inversion of the lids. That the lachrymal ducts are sometimes closed in xeroma, I do not mean to deny; but may not the same chronic, mismanaged inflammation, or the same violent escharotic applications, which close forever the secreting pores of the conjunctiva, close also the mouths of the lachrymal ducts? Would mere closure of these ducts, with an otherwise healthy conjunctiva, give rise to xeroma. I believe not; and Dr. Ammon seems inclined to the same opinion. It is the mucus of the conjunctiva, and not the tears, which, under ordinary circumstances, keeps the eye moist and the cornea pellucid. The moisture of the eye and the clearness of the cornea are preserved even after the lachrymal gland is extirpated. But let the conjunctiva, (as in the disease now under consideration,) be deprived of its secreting faculty, not merely does the patient complain of a feeling of dryness in the eye, and move the eye with difficulty, but the membrane looks like the skin on the back of the hand, and the cornea, no longer guarded against the effects of air, dust, and light, becomes opaque.

Treatment.—Cold applications Dr. Ammon found hurtful in this disease. Tepid ones should be used; and let them bear some resemblance, in physical and chemical properties, to the secretion which the eye has lost, and for the recovery of which there is very little hope. If the conjunctiva be very red, local blood-letting will afford considerable relief. The general health is carefully to be attended to; not neglecting the trichiasis, entropium, and other local occasional attendants on this highly-interesting affection of the conjunctiva.—*Lond. Med. Gaz. May*, 1833.

SURGERY.

25. *Case of Croup in which Tracheotomy was performed with success.*—The question of the utility of tracheotomy as a last resource in croup, has been much debated by physicians; some few considering it as the only chance of saving or prolonging life in the last period of that dreadful malady, while the greater portion of practitioners regard it as absolutely injurious. The cases of success are certainly extremely few; so few, indeed, that the physician to the Hospital of the Enfans Malades, in his article "Croup," *Dict. of Medicine*, says that he is not acquainted with one authentic case of recovery after this operation in true croup. The following example will therefore be read with some interest; and the marked character of the symptoms leave no doubt that it was a case of genuine croup.

Case 1. Gustava Marcillet, six years of age, was seized on the 21st of November with fever and some pain in the throat; the cough was spasmodic, and the voice hoarse; during the nights of the 22d and 23d, the cough became more frequent, hoarse, and suffocating. These symptoms, with oppressed respiration, became aggravated on the 23d, when leeches and blisters were applied to the neck. At this period the infant was visited by Drs. Trousseau and Rue. It presented all the characters of croup in its third stage; the respiration was extremely anxious and oppressed; the dry gifflement of cramp was distinct; pulse rapid and nearly insensible; cough hoarse and frequent in the morning; in the day absent, through the weakness of the child; the skin was warm and covered with sweat, and the anxiety of countenance excessive. Towards evening, the fits of suffocation became more violent and frequent; the child seemed on the point of death; and as all the usual remedies had failed to arrest the disease, it was determined to have recourse to tracheotomy as a last hope; M. Trousseau was fortunately furnished with instruments on the spot, while the parents re-

moved themselves from the house to avoid seeing, as they imagined, the last gasp of their child.

The operation was simple, and conducted after the manner recommended by M. Bretonneau. An incision was first made from the angle of the thyroid cartilage to the sternum, a little inclining to the left side, in order to avoid the innominata. This incision gave an open wound of about two inches, and in the moment of inspiration, the space between the sterno-thyroid muscles was very strongly marked. The vessels and nerves on the right side of this space were pushed aside with the index and middle finger of the left hand, and the deep incision continued close by the side of the nails. At this time numerous thyroid veins were unavoidably divided, and gave a good deal of blood; this caused some embarrassment, when the point of the blade was close to the trachea, for on the one hand it was impossible to press the fingers more strongly on the trachea as a guide, for fear of compressing the air-tube, while on the other the blood completely obscured the trachea itself; thus it became necessary merely to touch with the knife gently the rings of the trachea each time it rose during inspiration; in this way one or two rings were exposed and opened near the lower edge of the wound. The division of the rings was then continued upwards as far as the cricoid cartilage; this part of the operation was completed in five or six seconds; the blood immediately penetrated into the trachea, and was rejected with great force; but the moment respiration was established through the wound, it ceased altogether.

The respiration now became less difficult, but extremely rapid; the child recovered the full use of his senses, and expressed himself as being better; however, the fits of coughing came on nearly every moment, when he spat up bloody mucus and bits of false membrane. As the cough became more calm, an attempt was made to introduce a canula into the trachea, but this was impossible, through the pain it caused, and the irritability of the child. An assistant was now left with the child to keep the wound if possible open, while M. Trousseau sought a canula of a different construction. On returning with an instrument which had already been used in two similar operations, M. Trousseau found the lips of the opening almost closed by mucosity and remnants of false membrane; however, the canula was introduced without difficulty, and immediately provoked a convulsive cough, followed by the expectoration of thick mucus and portions of membrane. When this coughing had somewhat ceased, fifteen to twenty drops of a saturated solution of alum were introduced into the trachea; the cough was thus reëxcited with great violence, and a quantity of false membrane spit up; after a short period, a solution of nitrate of silver (10 grains to ℥j. of distilled water) was injected into the trachea, and provoked the cough in a much less degree than could have been imagined; the expution of false membrane followed this injection also. Shortly after, the cough became calm, and the infant slept, with the respiration considerably improved. During the night, the patient's aunt was constantly employed in keeping the passage of the canula free, either by a little sponge, or by dropping an emollient fluid into the trachea.

24th. Eight hours after the operation, the countenance was good, the pulse developed, respiration 32, râle ronflant in the bronchi, and perfect resonance of the chest. The nitrate of silver was again dropped in, and the canula occasionally cleared.

25th. Solution of nitrate of silver (10 gr. in ℥ii. of water) was dropped into the trachea six times, each application being followed by violent coughing and expution of false membrane. Whenever, in spite of the injections, the respiration became embarrassed, the canula was withdrawn, and the wound left open, while the instrument was cleaned, a process which was frequently necessary in the course of the day and night. However, the edges of the wound became a little sore and irritable on the 26th, and the secretion from the trachea was transparent and spotted with blood, but these were the signs of pneumonia.

26th. Sixty hours after the operation the child slept peaceably during the

night; the instillation of the emollient fluid was continued, which always excited cough, but an expectoration of simple mucus instead of false membrane; the pulse is regular, and the respiration not embarrassed; thirty-six in the minute.

27th. Four days after the operation, the injection of nitrate of silver discontinued; respiration easy; the respiratory sound is heard nearly in the whole of the chest. During the day the child spoke a little in a low voice; the canula has been removed and cleaned; whenever the respiration becomes oppressed, the marsh-mallow water is injected into the trachea.

On the sixth day after the operation, the child coughed only four or five times; no expectoration: respiration not embarrassed; the child commences to speak a little. When the canula is closed purposely, the air passes readily through the glottis and nares. On the ninth day the canula was completely closed, and on the twelfth the child was able to respire entirely by the larynx; in consequence of which the wound was dressed with lint and plaster, and in the space of three days was completely healed. The child now enjoys the most perfect health.—*Lancet, from Journ. de Connaissan. Med. Chir. No.* 1.

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26. *Dislocation of the Humerus backwards.*—M. Sedillot, Surgeon of the Hôpital de Val-de-Grace, communicated to the French Academy of Sciences in June last, a case of luxation of the humerus backwards into the fossa infra-spinata, which was reduced a year and fifteen days after the accident. Boyer mentions only one case of this accident. Dessault never saw any; indeed, it is so rare that its occurrence has been denied by some surgeons.

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27. *On Abscesses of the Septum Narium.* By Mr. Fleming.—"Abscess of the septum are then occasionally met with as the result of injury. As such they may be acute or chronic. They may also arise independent of that cause, in which case they appear frequently to be connected with some scrofulous disposition in the constitution, or with the presence of some of the exanthemata, as variola, measles, scarlatina. The nature of the injury to the nose likely to produce abscesses of the septum varies. I think, however, they occur often where there is an accompanying wound of the integuments, and where that wound is situated near the lower extremities of the nasal bones, with or without injury to them. It usually happens, that the abscess is fully formed, when the surgeon is applied to, or, (if he have had an opportunity of watching the case from the commencement,) that the exact situation of the inflammation escapes his observation, until it has advanced too far to prevent suppuration. In those abscesses, the integuments of the nose generally partake of the inflammation. Though not always discoloured, they are œdematous, and tender on pressure. The pituitary membrane is inflamed throughout, and that portion of it covering the septum is particularly turgid. Its natural secretion is also suppressed, and should any external wound be present, it looks angry and irritable. The constitution generally sympathises, and ordinary feverish excitement prevails. At an earlier or later period, matter is formed under the mucous membrane, occupying either or both sides, usually both; and in proportion to the extent of the effusion, there is a tumour, more or less prominent, in either or both nostrils, producing corresponding obstruction. The pain, as we might have anticipated, spreads along the mucous membrane to the frontal sinuses, and lachrymal passages; hence the lachrymation and uneasy sensations in these parts complained of by the patients. It likewise occasionally spreads downwards; hence tumefaction of the upper lip and lower margin of the septum. The appearance of these tumours is remarkable. They are smooth and shining, and of a bright red colour; very tender on pressure, and give a distinct sense of fluctuation. They are somewhat fixed, and do not appear influenced by the ordinary acts of respiration. Their connexion with the septum is by an extensive base, and in every case I have seen, there has been a communication between those on opposite sides."

Case. A coachman, æt. 40, fell and struck his nose against the edge of the

curb-stone. A wound was produced. It was dressed, and, for eight or ten days nothing unusual occurred. The wound then became extremely painful, the pain extended to the neighbouring parts, the nostrils grew obstructed, and there was febrile disturbance. Mr. F. now saw the patient. The nose was enlarged from subcutaneous effusion, which implicated, with cutaneous redness, the eyelids, lower part of the forehead, and upper lip. There was much lachrymation, much pain on pressure, ulceration of the wound, exposing the nasal bones denuded, and a probe could be passed on either side of the septum for some distance upwards, backwards, or downwards. The nostrils were blocked up by two highly-vascular tumours, which projected considerably beyond their margin. These tumours were tense and polished on their surface, and so fully occupied the nostril, that they were almost fixed and unaffected by the ordinary act of respiration. By firmly compressing the nose at its lower part, a thin, sero-purulent fluid could be expressed through the ulcer; by having recourse to the same means of compression at the upper part, the tumours below were rendered more tense and projecting, and by alternate movement, no doubt could be entertained as to the existence of a fluid within them. The outer boundary of each was defined, and could be traced with a probe towards the median line, where the septum separated them. Mr. F. made an opening with a lancet into the tumour, in the right nostril, when a large quantity of a thin purulent fluid escaped, and both the tumours subsided, leaving the mucous membrane in loose sacculi, on each side of the septum. A dossil of lint was introduced into the opening, and ordinary local and general remedies directed. Great relief was experienced from the operation. Much difficulty was experienced in keeping the opening free, and six weeks elapsed before the wound was healed. Twelve months after the accident, Mr. Fleming met the patient and examined the nose. No exfoliation had taken place, but occasional uneasiness was felt in the cicatrix of the original wound. The central portion of the cartilaginous septum appeared to have been absorbed, and to have admitted of the adhesion of the opposite surfaces of the mucous membrane to each other. This had produced a change in the form of the nose, the dorsum having fallen in, in a slight degree, between the tip and the extremities of the nasal bones. No other peculiarities were to be observed.

"Abscesses of the septum are always to be looked on by the surgeon with anxiety. He ought to have recourse to every means in his power from the date of the injury to the nose, to prevent their formation, and when the slightest grounds exist for suspecting the presence of matter, he should not lose time in making an opening to evacuate it. This is the only chance the patient has of escaping a tedious disease, and ultimate deformity, from the bones or cartilage partaking of it. The thickened state of the mucous membrane is to be borne in recollection in puncturing those tumours, and in their future treatment. They should be rendered as tense as possible by firmly grasping the upper part of the nose, and in the subsequent visits the opening should be freed, as the fulness of the tumours may indicate the fresh accumulation of fluid. The discharge is generally of a thin, sero-purulent nature, and in the progress of the case I have remarked, that it assumes a glairy consistence. The mucous membrane is slow in recovering its healthy condition. It is, however, materially assisted by different lotions: in the inflammatory stage, those containing lead and zinc are grateful; in the chronic, the black and yellow mercurial washes, and the diluted citrine and zinc ointments, will be found beneficial. The general, local, or constitutional treatment does not require any particular comment."

Mr. Fleming appears to consider as a peculiarity, the discharge assuming a glairy character in the progress of the case. This is observed in all abscesses. As the cavity contracts, and the cure is effected, the discharge invariably passes from the condition of purulent to glairy, and from that to serous.

Mr. Fleming has also seen instances of abscess arising spontaneously. They are seldom suspected by patient or practitioner, till fully formed. He has

never seen the outer parietes of the nose engaged in these abscesses. With the following quotation we will drop the subject.

"Their appearance is natural, and unless deformity exist from the extent of the abscesses, we are obliged to examine the nares for their detection. Here the only peculiarities they possess different from the symptomatic or acute, are, that there is a less shade of redness in their colour, that they are less tense, and that they bear more pressure without pain. I think also, they are much more extensive, and more likely to occur singly on either side of the septum. I have met with the case of a countryman, where not only each cavity of the nostril was occupied by a tumour, but there was considerable protrusion of the upper lip, and on everting it, an abscess exactly resembling in appearance and situation a common gum-boil, was found at the root of the septum, which, on being opened, gave exit to a large quantity of thin, purulent fluid, and caused the subsidence of all the swellings. Again, I have had under my care a young lady, with an abscess about the size of a Spanish nut, occupying only one side of the septum, about an inch or an inch and a half from its anterior margin. The history of the first of these cases was most confused and unsatisfactory. The obstruction in the nose had been felt for an indefinite period beforehand, and with so little uneasiness or pain was it accompanied, that I really believe, were it not for the deformity, no application would have been made for relief. It had been considered in the neighbourhood of the character of polypus. Its termination I am not aware of, I am only satisfied of its nature. The account which the lady, who was the subject of the second case, gave of herself, was as follows: when travelling in England about a month before, without any previous uneasiness in the nose, she suddenly perceived a most disagreeable, noisome smell, which, at the moment, she was inclined to attribute to some accidental cause in her apartment, at the hotel at which she stopped. She could not, however, get rid of the sensation, and although it varied in its pungency, it was more or less constant. Under those circumstances she applied to me. In the examination of the nares, I could only observe the tumour I mention in connexion with the septum. It had a fistulous opening, through which oozed out a thin fluid, having the fetid odour complained of. Some time elapsed before it subsided. It ultimately, however, did subside, and was most benefited by the occasional injection of a strong solution of the nitrate of silver, and the administration of mild alteratives."—*Dublin Journal of Med. and Chem. Sciences, No. X.*

28. *Fracture of a Rib produced by a Violent Fit of Coughing.*—An instance of this, the only one we believe on record, is related by Dr. Graves, in a late No. of the *Dublin Journ. of Med. and Chem. Sciences.* It occurred in a female, forty-seven years of age, tall, and unusually strong and muscular for her sex. During a violent fit of coughing, she was suddenly seized with a stitch in her left side, accompanied by the sensation of something having snapped or given way. The pain was so severe, and so much affected her breath, that she obtained professional advice next day; when leeches and afterwards a blister were applied, but without relief. Five days after the accident she came to Dublin, and applied to Dr. Graves. She was then unable to make a deep inspiration without extreme pain, and complained of great soreness and tenderness extending in every direction from central portions of the ninth and tenth ribs. When she made a very deep inspiration, the pain was felt in the situation of the left kidney, and also shot to the left shoulder. These symptoms, evidently differing from those produced by either common pleurisy or pleurodyne, puzzled Dr. G. not a little, and he desired the lady to remain in town, in order that he might make an examination of the affected parts when she was in bed. When this was done, he found that the central point of tenderness, and that from which the pain as it were radiated, was situated not between the ribs, but on one of them, either the ninth or tenth. It was evidently either at or very near the junction of the cartilaginous with the osseous portion of the rib.

Pressure made exactly over this spot could scarcely be tolerated, and immediately gave the idea that the bone yielded here, in fact, that it was broken. Dr. G. mentioned his suspicion, when she told him she had mentioned to her family immediately after the accident occurred that she was sure she had broken a rib, as the feeling was similar to what she had two years before experienced on breaking one of the bones of the fore-arm. She also observed that she was much easier during the day when her stays were on, than at night when she had unlaced and taken them off. On applying a compress and roller over the part she experienced immediate relief, and gradually recovered without any other remedy being used.

There was no evidence of unusual fragility of the bones observab'e in this lady. The fracture of the fore-arm had been occasioned by an accident attended by the application of a sudden and violent force to the bone, and she had recovered speedily with a well-ossified callus. With respect to the explanation of the fracture of a rib as an effect of coughing, it is to be recollected, that several of the abdominal muscles, which are called into action in forcible expirations and violent fits of coughing, arise from the margins of the inferior ribs; and to the agency of the unusually sudden and energetic action of some of them, we may, therefore, attribute the fracture of the rib. Altogether, the case is instructive, not merely for its singularity, but because it affords a useful lesson with regard to the extreme importance of making an accurate examination of every disease before we hazard an opinion concerning its nature.

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29. *Parotid Tumour.—Extirpation.* By James Syme, Esq.—Mary Dawson, aged twenty, was admitted on the 22d of June, on account of a tumour occupying the situation of the parotid gland. It was of the size and form of the half of a small orange; the surface was slightly botryoidal, and the consistence was firm. It could be moved a little upwards and downwards, but not forwards. It was not painful. The patient stated that she had first remarked the swelling about five years ago, when it was very small, and that of late it had increased much more rapidly than during the previous period.

The tumour was removed on the 26th, by making one long incision from above downwards, turning aside the integuments, and dissecting out the morbid growth from the substance of the parotid gland, in which it was imbedded. A process extended very deep behind the angle of the jaw; but by detaching the anterior edge of the tumour first, and reflecting it backwards, the operation was completed with little difficulty. Two pretty large arteries, and a considerable branch of the *portio dura*, were divided. The vessels were tied: and the edges of the wound having been brought together by a couple of stitches, a sponge was applied with moderate force to restrain the oozing of blood from the cut surface of the parotid. The patient was dismissed on the 9th of July quite well, without any unseemly trace of the operation, and with the slightest possible paralysis of the face, which could be perceived only when she smiled.

The tumour was found to possess a fibrous consistence, with small cells containing fluid interspersed,—a kind of morbid growth frequently met with in the neighbourhood of the parotid and mammary glands, the place of which, when allowed to grow large, it often occupies so completely as to appear an enlargement of the glands themselves.—*Edin. Med. and Surg. Journ. Oct.* 1833.

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30. *Cancer of the Tongue—Excision.* By James Syme, Esq.—Elizabeth Low, aged forty-one, was admitted into the Surgical Hospital on the 20th of March, on account of a very formidable-looking ulcer of the tongue. It extended from the apex backwards along the right edge, terminating opposite the second molar tooth, and leaving free not more than a third part of the organ. The surface of the ulcer was extremely irregular, and its stool was very hard. She stated that the disease was first noticed some months before, and had latterly made very rapid progress. Her general health was pretty good, and no glan-

dular enlargement could be found on the most careful examination of the neck.

The operation was performed by seizing the ulcerated part with the fingers of the left hand, so as to keep it steady, and distinguish the confines of the disease, beyond which two or three successive strokes were then made with a pair of probe-pointed curved scissors. The two ranina arteries presenting themselves near the frenum were the only vessels that required to be tied; and the cut surface afforded but an inconsiderable oozing. About a fortnight afterwards, while the sore was healing favourably, an abscess formed in the neck, about midway between the jaw and clavicle. It was evacuated by free incisions, and soon healed. The patient was dismissed quite well on the 18th of April.

Malignant sores of the tongue are removed more advantageously by excision than the ligature. The latter method is extremely painful, and very uncertain, as the thread is apt to slip in the drawing of the knot, while the only objection that has been urged against excision, viz. the danger of hæmorrhage, must be admitted to be more theoretical than practical, since the only considerable arteries of the tongue lie near the forepart, where they are easily accessible, and since in point of fact excision has been very freely performed without any such bad consequence.

It was curious to observe in this case, that although so small a portion of the tongue remained, the patient retained the power of articulation nearly unimpaired. Similar facts were formerly supposed to afford evidence of reproduction of the tongue after partial destruction of it by violence or inflammation; but it is needless to impugn this opinion, as it has been already so completely refuted by Louis.*—*Ibid.*

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31. *Medullary Tumour of the Bones of the Face, with Abscess of the Antrum.* By James Syme, Esq.—William Anderson, aged sixty, was admitted on the 22d of June, on account of a large swelling of the left side of the face. It commenced immediately below the eye, which, from the distension of the lower lid, could hardly be opened, descended to the mouth, and pressed the nose towards the opposite side. There was a small opening a little below the margin of the orbit, which allowed a probe to enter downwards and backwards to the extent of at least two inches. A small quantity of matter issued from this orifice, and also from the left nostril, when the patient assumed the horizontal posture. On examining from the mouth, it was felt that the tumour commenced immediately above the alveolar processes, as if formed by expansion of the anterior wall of the antrum; that the left canine and lateral incisor teeth were loose; and that the left side of the palate yielded to pressure.

The patient's appearance was unhealthy, and his pulse was irregular. He stated that he had a discharge of matter from the left nostril for a good many months, but had first perceived the swelling of the face only twelve weeks previous to the time of admission. The opening in the cheek had taken place spontaneously about a month after the tumour appeared. He complained of a dull, aching pain in the affected part.

On the 24th, a free opening was made into the antrum, by cutting above the gum of the bicuspid tooth, which allowed a quantity of bloody pus to escape. Considerable diminution of the pain and swelling followed, but matter still issued from the sinus of the cheek, which was therefore dilated by incision downwards on the 28th. Passing my finger into the cavity, I ascertained that the swelling depended almost entirely upon expansion of the parietes of the antrum; that the lining membrane seemed to be not materially altered; and that it was only towards the orbit and nose that any solid enlargement could be found. In the course of this examination, the roots of the canine and lateral incisor teeth were felt projecting into the cavity, and pressure was made upon them so as to effect their removal. Poultices were applied to the face in the first instance

* Mem de l'Academ. de Chir. Tom. v.

after these operations, and then lotions of sulphate of zinc, with injections of warm water, into the cavity. A great improvement soon took place. The cheek regained a natural appearance, the nose became straight, and the eye was no longer closed. Notwithstanding this improvement, which led the patient to think himself on the point of getting quite well, the case retained a very unpromising aspect, as the upper part of the left nostril was occupied by a soft polypous growth from the bone, and a swelling still existed at the inner angle of the eye, which seemed to depend on a similar morbid formation. As any attempt to eradicate the disease would in these circumstances have been absurd, it was resolved to do nothing more, and send the patient home with the relief that he had obtained.

On the evening of the 5th of June, he had a rigor, which continued during the night. In the morning, he had an emetic, followed by a dose of calomel and antimonial powder. In the course of the succeeding night his breathing became very difficult, and attended with a very loud mucous rattle. He continued quite sensible, but made no complaint of pain. He died next day at 2 P. M.

On dissection, the inferior margin of the orbit and the left wall of the nasal cavity were found occupied by a soft, white, pulpy substance. No morbid appearance could be perceived in the brain or its membranes, except a slight degree of softening at the anterior part of the fornix. The lungs did not collapse when the chest was opened, they were much engorged with blood, and the bronchial tubes were filled with frothy mucus. There was hypertrophy of the right ventricle of the heart, and ossification of the mitral valve.

The combination of abscess in the antrum, with a morbid growth of the neighbouring bones, is very uncommon. The disease in this case was evidently incurable, and would have been found beyond the reach of surgery from its earliest commencement. But it is satisfactory to know, that many of the tumours which originate in the superior maxillary bone may be completely and radically removed by the operation lately introduced, on the same principle that has led to such successful results in the treatment of similar growths affecting the lower jaw. Betsy Lees, of Galashiels, whose case is related in the Eighth Report of the Surgical Hospital, and who was operated on in January, 1832, on account of a large, soft, bloody, most malignant-looking tumour, which encroached upon the cavity of the mouth, and elevated the cheek, presented herself lately, to show that she was in all respects perfectly well. The experience of M. Gensoul of Lyons, which has lately been given to the profession,* is strongly in favour of this operation. He was the first to perform it, which he did in 1827, on account of a fibro-cartilaginous tumour of the bone, and the patient continues well. He has operated in eight cases, and follows the same method which has been described in the foregoing reports, and elsewhere,† without any knowledge of his proceedings.—*Ibid.*

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32. *Abscess of Perineum, communicating with the Urethra after its evacuation.* By James Syme, Esq.—Alexander Hay, aged thirty-two, was admitted on the 21st of July. He complained of swelling of the scrotum; but when the perineum was examined, it appeared so full and tense, that no doubt could be entertained as to the presence of matter there in considerable quantity. He complained of great pain; and stated that he had begun to do so thirteen days before, soon after exposure to cold and wet. About ℥xii. of thick and excessively fetid pus were evacuated by a free incision, after which a poultice was applied to the perineum. On the 28th, the patient observed that a small quantity of urine, about two tea-spoonfuls by computation, passed through the wound: on the 30th a full-sized bougie was passed into the bladder, without encountering any resistance from contraction of the canal; on the 6th the urine ceased to pass by the preternatural opening; and on the 12th he was dismissed quite well.

* Lettre Chirurgicale sur quelques maladies graves du sinus maxillaire, &c. Lyons 1833.
† Principles of Surgery, by James Syme, Edinburgh. 1832.

It is a well known fact, that the cavities of abscesses near the urethra, like those in the vicinity of the rectum, are apt to communicate with the neighbouring canal some time after the evacuation of their contents. This cannot, of course, be owing to ulcerative absorption induced by pressure, and probably depends on the same principle that leads to the successive formation of several openings in the thin integuments lying over the cavities of abscesses, where they have been rendered very thin to a considerable extent.—*Ibid.*

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33. *On the Obliteration of Veins as a Mode of Curing Varices.*—M. Davats, in a learned paper on the different modes of alleviating and curing varicose veins, objects, on various grounds, to all the plans hitherto proposed, and recommends obliteration of the affected vein by a novel procedure. This consists in irritating very slightly two opposite points of the internal surface of a vein, and, at the same time, in keeping those points in contact. A simple sewing needle of any discription will answer for the operation, which is thus performed. First the vein is made to swell by means of ligature, is seized by the finger and thumb, and isolated by passing a needle transversely under it; then the anterior, and next the posterior, wall of the vein is pierced perpendicularly with the point of another needle, which is conducted higher up, to pierce a second time first the posterior and next the anterior wall. The last needle is retained in its place by means of a thread twisted like the figure 8. In five days the thread may be cut, and the needle will fall out of itself. The first needle may be left till it drops spontaneously. In a few hours after the expulsion of the needles, the little wounds will heal kindly.

M. Davats has made several experiments, which prove the safety of the operation, and the rapidity with which a radical cure may be thus performed, complete obliteration taking place by the fifteenth day. In one experiment the operation was performed on two parts of the same vein, leaving a portion between them filled with blood. The blood coagulated, and was absorbed; the vein became obliterated, and no accident occurred.

M. Davats maintains, that compression alone is insufficient to cause obliteration of a vein, and supports his opinion by several experiments, in which the most perfect compression failed to secure this result.

By the operation proposed, the vein is transformed into a cord, white, round, filiform, and analogous to ligamentous tissue. The obliteration extends above and below the point of lesion, as far as the first anastomosing veins, which become sufficiently dilated to give free course to the blood. Beyond the anastomoses the venous tissue assumes its normal state. No trace of inflammation is observed; no clot of blood found in any part; and the cellular tissue surrounding the portion of obliterated vein is found in the most healthy state.—*Ibid.*

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34. *Retention of Urine produced by Imperforate Hymen.*—The following instance of this is recorded by Mr. Coley, in the first volume of the *Provincial Medical and Surgical Transactions.* "March 25th, 1832, I was requested to visit a young lady, aged 16, who resided at a considerable distance from this town. She had been ill three days and nights, with retention of urine; and her medical attendant had been under the necessity of relieving her by the introduction of the catheter, twice daily, during that period. The existence of so distressing a disease excited great apprehension; and my opinion was solicited respecting its nature and treatment. I found the cause of the ischury to consist of an imperforate hymen, which, by totally preventing the discharge of the menstrual fluid, had produced a mechanical obstruction in the urethra. The external orifice of the meatus urinarius was situated in a cul-de-sac, and the hymen was tense and slightly protruded. The bladder having been evacuated, I proceeded to examine the hypogastrium, where I discovered an obvious and considerable enlargement of the uterus of an oblong shape, extending nearly to the umbilicus. The lower part of the abdomen had been increasing in bulk during the last two

years, and the breasts were fully developed; in short, she appeared to be in a state of pregnancy.

"The patient being laid on her back, I pushed a double-edged scalpel through the hymen, which was very thick and tough; beginning at the upper part just below the meatus. Nearly four pints of tar-like fluid gushed out; after which I continued the incision down to the perineum. An aperture was thus made capable of admitting two fingers, into which a plug of lint was introduced."

Before the whole of the menstrual fluid was drawn off the young lady became hysterical, and so continued for four hours. The discharge ceased in a few days, a piece of sponge was introduced to keep asunder the sides of the vagina at the incisions, and the wound was healed by the 16th of April. The hysterical fits continued for some days longer, when profuse menstruation occurred, soon after which the hysteria subsided.

Mr. Coley remarks that he has seen many cases of incomplete obstruction, in which there is a minute aperture at the upper portion of the hymen, through which part of the urine is forced out in drops or in a small stream, with great pain, resembling that produced by stone in the bladder. As the imperfection exists from the time of birth it is usually discovered when the child has attained the age of three or four years. In the cases which Mr. Coley has witnessed, a free incision effected a permanent cure. Sometimes the membrane is found double, sometimes of extraordinary density.—*Med. Chirurg. Rev. July*, 1833.

MEDICAL JURISPRUDENCE.

35. *On a peculiar Animal Substance produced during the Decomposition of the Dead Body.* By MM. Ollivier d'Angers and A. Chevallier.—At certain periods of a peculiar decomposition which dead bodies undergo, consisting of a progressive *mummification*, about three months or less after interment, there is found a particular substance produced from all, or the greater part, of the various organs or soft tissues which cover the skeleton. On the surface of the liver, which at this period is found of a blackish-green, withered, in a state of incipient desiccation, and diminished at least to half its volume, this production appears as a white, hard matter, sometimes under the form of irregular granulations, sometimes like flat plates of a crystalline appearance, rough to the touch, disposed in groups sufficiently large to make their whiteness the more remarkable, from their adhering to a dark-green surface. It is deposited so as to form sometimes straight longitudinal bands parallel to each other; sometimes rounded plates, like concentrated and undulating zones, somewhat similar in appearance to the white lichens found on the bark of certain trees. The same kind of substance, variously disposed, is found in the interior of the liver on the internal wall of its veins, in the aorta, and great vascular trunks. It differs entirely, not only in physical characters, but also in chemical composition, from the white grains found in the stomach.

After submitting this substance to as many tests as the small quantity which they possessed would permit, MM. Ollivier and Chevallier conclude, that it contains, 1*st*, traces of an ammoniacal salt; 2*d*, an animal matter analogous to gelatine; 3*d*, traces of the muriate of soda; 4*th*, a fatty matter soluble in alcohol; 5*th*, an animal matter soluble in acetic acid; 6*th*, traces of an alkaline carbonate, the result of incineration; and 7*th*, traces of the phosphate of lime.

It is not probable that this singular production could ever become the cause of any mistake in the matter of poisoning; for, whether found adhering to the surface of the liver, or detached and free in the midst of the neighbouring organs, chemical analysis would always easily demonstrate that it differed essentially from every species of poison. It is clear that the elements which enter into its composition are furnished by the decomposition of the body. Nevertheless, it is well to call the attention of the profession to every peculiarity

which accompanies the decomposition of dead bodies at different periods following inhumation.—*Ed. Med. and Surg. Journ. from Journ. de Chimie. Med. April*, 1833.

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36. *On the Presence of Copper in Wheat and several other substances.*—M. Boutigny, by a very interesting and delicate process, has succeeding in discovering the presence of minute portions of copper in cider which had passed through a copper cock,—in cider, in the preparation of which no copper had been employed,—in the factitious waters of Seltzer and Vichy, prepared by several establishments of Paris,—in the water which had served to boil sorrel, artichokes, spinage, and succory, in a cauldron of yellow copper,—in common beef soup, prepared in a copper pot ill-tinned, and in a corresponding mass prepared in the same pot tinned anew,—in three samples of vinegar, and in six of brandy,—in claret, and in *vin de Chably*,—and in treacle.

The process which he employed, consists in suspending, by means of a hair, the half of a fine needle in the midst of a liquid previously acidulated with sulphuric acid. The apparatus thus disposed, is placed under a bell-glass, and left by itself in an isolated apartment. As soon as the bar of iron is plunged in the liquid, M. Boutigny conceives that the action commences, though it is not till after six, eight, twelve, or even twenty-four hours, according to the state of the atmosphere, that it becomes apparent. Then the needle loses its metallic lustre. It is commonly at the head that the action commences, proceeding successively through the remainder, and terminating at the base. If the operation be carefully watched, at a certain period the superior half of the needle will be found tarnished, while the other half still retains its metallic lustre. Then will be perceived covering the needle some air bells, which become larger, and when they have acquired a certain volume, detach themselves, and burst at the surface of the liquid. In from one to three days this disengagement ceases at the surface of the bar of steel, to commence at the inferior part, a curious phenomena, which occurs only in liquids containing a notable quantity of copper, and which may be attributed to two causes, acting, perhaps, simultaneously, electricity, and the coppering of the needle. The latter opposes the disengagement of the gas by an action altogether mechanical, and the needle, in becoming polarized, does not permit the gas to be disengaged except by its negative pole. After this the head of the needle will be the positive pole, and the inferior extremity the negative. Admitting electricity to be the primary cause of the decomposition of the salt of copper, it is very easy to explain the subsequent phenomena. The steel, according to M. Becquerel, is one of the elements of the pile, the acid of the salt of copper is carried to the positive, and the oxide to the negative pole. This, again, is decomposed—the oxygen goes to the iron, which is oxidized, and dissolved in the sulphuric acid, and the copper is precipitated on the steel, covers it entirely, and opposes, as mentioned above, the disengagement of the gas. This, however, does not constitute all the action, for the sulphuric acid which M. Boutigny has elsewhere shown to be added merely to render the water a better conductor of the electric fluid, acts on the steel by causing the decomposition of the water, the oxygen of which goes to the iron, while the hydrogen is evolved. The oxide of iron thus formed is dissolved in the sulphuric acid, and forms sulphate of iron, which remains in solution.

To insure the success of the experiment, the following conditions are necessary. 1*st*, a small bar of steel; 2*d*, an acid capable of dissolving the deutoxide of copper, and one of the elements of the steel, after being oxidized at the expense of the water, or of the oxide of copper, and having no action on metallic copper—sulphuric acid, fulfilling all these conditions, ought consequently to be preferred. The other conditions are a liquid, slightly, if at all, viscid, and of the same or nearly the same density as distilled water.

After the appearance of the phenomena enumerated above, there occurs a moment when they cease, which is known by the absence of bubbles, and most

frequently by the horizontal position of the cylinder, which has replaced the needle on the surface of the liquid. This cylinder, being carefully lifted, and mixed with a grain of borax and a sufficient quantity of oil to form a paste, is to be placed in a testing-tube, and submitted to the action of a blowpipe, till it acquires a very deep red-brown colour. In this state, the tube, when examined by the aid of a good magnifying glass, will exhibit several points of metallic copper scattered over its surface.

The results of the facts and experiments narrated by M. Boutigny are, 1*st*, that articles of food and drink prepared in copper vessels, contain almost always more or less of that metal—a fact which renders it desirable that for this metal some other should be substituted; 2*d*, that wine, cider, and wheat, conceal sometimes atoms of this metal, but only when it is contained in the soil in which the vines, apple trees, and wheat grow; from which we may infer, that the presence of copper in vegetables is *not the result of the act of vegetation*, but only of absorption; 3*d*, that the discovery of copper in articles of food and drink raises a question in legal medicine, which renders new investigations necessary, and which, in the meantime, ought to render experiments very circumspect in cases of poisoning by copper.—*Ibid. March*, 1833.

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37. *Weight of Man at different Ages.*—From observations made by M. Quetelet, on sixty-three male, and fifty-six female new-born infants, in the Maternité de Saint Pierre, at Brussels, it appears that the mean weight of the former was 3·20 kilogrammes, (6·536lbs,) while the length, by Chaussier's mecometer, was 0·496 metres, (1 foot, 6 inches, 3 lines:) and of the females, the mean weight was 2·91 kilog. (5·923lbs,) the length 0·483 metres, (1 foot, 5 inches, 10 lines.) Whence it is inferred that at birth there is an inequality in the weight and size of the two sexes—the males having the advantage in both.

Chaussier seems to have been the first who remarked that the infant, presently after birth, begins to lose some of its weight. M. Quetelet, from seven series of observations, extending in each case to the seventh day, has confirmed M. Chaussier's remark, and shows that the infant does not begin to grow perceptibly till after the first week.

M. Quetelet gives a table of the corresponding weights and statures at the different ages. We extract a few of them, by way of specimen:—

Ages.	Males.		Females.	
	Height.	Weight.	Height.	Weight.
	m.	*k.*	*m.*	*k.*
At Birth	0·500	3·20	0·490	2·91
1	0·698	9·45	0·690	8·79
3	0·864	12·47	0·852	11·79
6	1·047	17·24	1·031	16·00
10	1·275	24.52	1·248	23·52
20	1·674	60·06	1 572	52·28
30	1·684	63·65	1·579	54·33
40	1·684	63·67	1·579	55·23
50	1·674	63·46	1·536	56·16
70	1·623	59·52	1·514	51·52

In order to render these results still more striking, the author has delineated, by two curves, the course which the weight takes in either sex. the ordinates of the curves expressing the weights, and the abscisses the ages. It is thus seen at a glance, that at any given period the man is generally heavier than the woman. About the age of twelve, however, it may be observed that the weights

of both sexes are generally equal. This circumstance must, of course, be imputed to the earlier approach of puberty in the female.

Some of the other conclusions of M. Quetelet are curious. Man attains his maximum weight about the age of 40, and begins to lose weight very sensibly towards 60. Woman is not at her maximum weight till towards 50. Between 18 and 40, the period of her fecundity, she does not acquire any very perceptible increase of weight.

Both man and woman, at the period of their complete development, weigh almost exactly twenty times as much as they did at birth. Their height at the same period is about 3¼ times what it was at birth.

In their old age, both man and woman have lost 6 or 7 kilogrammes of their weight, and 7 centimetres of their height.

During the growth of both sexes, it may be stated that the squares of the weights are as the fifth powers of the heights.

After the development is complete in both sexes, the weights are very nearly as the squares of the heights: whence it may be inferred that the increase in the height is greater than the transverse increase of the body, comprehending both its breadth and depth.

The mean weight of an individual, without reference to sex or age, is 44·7 kilogrammes, (91·336lbs;) or, if sex be taken into account, it is 47 kilogrammes, (96·015lbs.) for men, and 42·5 kilogrammes, (86·831lbs.) for woman.

According to the observations of the late M. Tennon, of the Institute, [which observations are given by way of supplement to M. Quetelet's paper,] the Laplanders and the Patagonians present the two extremes of man's stature. The former commonly measure from 4 feet to 4 feet 6 inches, 4 feet three being their mean height, and their women are scarcely less. The Patagonians measure from about 5 feet 6 inches to 6 feet 3, and their women are generally 7 or 8 inches shorter.

The tallest men in Europe, M. Tenon thought, were in Saxony. But he added, that climate or locality had less to do with the stature of men than their race or variety. Close by the Saxons, for example, we find the Silesians, who are a short people; and the Patagonians are the Pecherais, a people much inferior in height. In Savoy also, and particularly about *La Haute-Maurienne*, extreme varieties have been noticed. Yet it can scarcely be doubted but that the climate, the nature of the soil, the sort of government, the state of civilization, and the comforts, or the contrary, of each people, have such influence in determining a national stature. This position has been strongly urged by M. Villermé, in his *Memoire sur la Taille de l'Homme;* and very interestingly stated by W. F. Edwards, in his *Caractères Physiologiques des Races.—Lond. Med. Gaz. September*, 1833.

MISCELLANEOUS.

38. *On the Transmission of Medicaments into the System by Means of Electro-Galvanism.*—It was stated some time since in one of the English journals, that by the influence of electricity the vaccine virus had been conducted along a wire, and the disease communicated from one person to another as effectually as when vaccination is performed in the ordinary manner. This statement strongly excited our interest at the time, and we should have then called the attention of our readers to it had it not been coupled with the startling assertion that *intermittent fever*, during the hot stage, had been communicated by the same means to a perfectly healthy person. This last assertion evidently proved too much, and so completely destroyed all the confidence we were disposed to repose in the first, that it appeared to us expedient to wait for some confirmation of the statement, rather than give currency to it by repeating what might prove to be only one of the thousand baseless assertions constantly put forth by careless observers.

It appears from an editorial article in a late number of the *Gazette Médicale de Paris*, for July 20th, 1833, that Dr. Fabre-Palaprat, previously to the publication of the statements just alluded to, had communicated to one of the Parisian societies a mass of observations relative to the property which he has found the electric fluid to possess, of conducting through our organs a number of active medicaments. It is known that electricity given off from a galvanic pile, has the power of decomposing most bodies, and of transferring their elements to one or the other of its poles. This principle or power is the basis of the observations about to be detailed. Dr. Fabre-Palaprat, to whom science is indebted for numerous interesting experiments upon this subject, when he wishes to tranfer a medicinal substance to any organ makes use of the voltaic pile, to each pole of which conductors are attached, which serve to transmit the electric current, and at the same time to decompose the substance upon which this current acts. One of the poles is made to communicate with the substance we wish to transfer, the other with a needle, (formed like that used in acupunctuation, of steel, silver, or platina, and of the same shape,) which is inserted into the part of organ to which we wish the medicine applied; for example, the thyroid gland or stomach. In a short time the medicine, let us suppose it to be *iodine* or *quinine*, passes with great rapidity, by some unknown route, to that part of the thyroid gland or stomach which is in communication with the point of the needle. This may be repeated, or the operation prolonged until a sufficient quantity of the iodine or quinine has been applied to the part. In order to prove that this transmission of the substance takes place, cases of goitre, and intermittent fever are cited, in which a cure of the disease took place from the operation. But it might be said, that in these cases a cure was due, not to the application of the medicine alone, but to other circumstances; as for instance, to the electro-galvanism employed, as this is known to exercise a powerful influence over the animal economy! In order to set at rest this point, Dr. F. P. in conjunction with the editor of the *Gazette Médicale*, undertook a series of experiments. The following is the manner in which they proceeded. Having prepared a vase of porcelain filled with a solution of the hydriodate of potash, a platina thread was so arranged that whilst one end was plunged in the liquid, the other communicated with the copper pole of a pile of fifty large plates. Another wire of the same metal was made to communicate by one of its ends with the zinc pole of the pile, and by the other with a solution of starch contained in a vase similar to the first. Finally, in order to complete the circle, a finger of the right hand of the operator, was plunged into the iodine solution, and one of the left placed in contact with the platina plate. (We should observe that here, that portion of the conducting circle which passed from the body of the operator to the pile was perfectly dry.) In a few seconds after the circle was formed, in the manner described, several points of a violet tint were observed to form upon the thread which communicated with the starch. These points gradually enlarged, and after a time united one with another, until a complete line of a violet hue was formed from the end of the thread to the hand. The appearance of this peculiar colour, (violet,) left no doubt whatever as regards the translation of the iodine from the extremity of the conductor attached to the copper pole, to that of the zinc. The following is the chemical explanation of this phenomenon; at the moment the two electric currents disengaged from the two poles of the pile meet, the hydriodate of potash placed in contact with the copper pole is decomposed; the hydrogen is given off; the potash becomes dissolved in the water of the solution, and the iodine powerfully attracted by the positive current, passes rapidly to the zinc pole, as is shown by the violet colour of the solution of starch, (the best test for iodine,) placed in communication with this pole. The iodine was selected in these experiments, on account of its presence in extremely minute portions even, being so readily discovered by a solution of starch. Reasoning from analogy, however, there can be no doubt, but that a similar translation of any other body, subject to the action of electricity, would also take place, provided we took the precaution of placing the organ to receive it in communication with that pole

of the pile, towards which the electro-chemical disposition of the substance would cause it to proceed. We here repeated these experiments with the iodine, and failed in producing similar effects, notwithstanding every thing seemed to be arranged as it should be. Dr. F. P. has also frequently met with the same results. This failure, however, is but temporary, for with a little patience, and by frequently repeating the operation, we are generally rewarded with success. Dr. F. P. attributes this irregularity of action to the impermeability of the skin of the operator during the operation. If, as he supposes this irregularity is dependent upon the impermeable nature of the cutaneous tissue of the operator, it is evident that by the employment of metallic needles, this irregularity could not take place, for the conducting circle is here formed of inert matter; the conducting power of which is not affected by any accidental circumstance. However, this may be, there rests not a doubt of the possibility of causing the translation of certain remedies to our organs through the medium of an electro-galvanic current, although we are as yet entirely ignorant of the route of this transmission, as well as of the mechanism of the causes which put it in play. Before closing this notice it may be as well to mention certain precautions which we should take in order to insure the success of the operation. In order that decomposition may take place, it is first necessary that the pile be possessed of a certain degree of energy, and further, that the electric current pass uninterruptedly through the different pieces of which the pile consists. These two indications are fulfilled, the first by multiplying with the number and the surface of the metallic parts of which the pile is formed, (of course its entire force will be in proportion to the number of the plates and the extent of their surfaces;) the second by interposing between the plates some body which is a good conductor of electricity. Water for instance, or what is still better, water containing a certain quantity of some salt or acid in solution. Dr. Fabré-Palaprat has also observed, that the decomposed bodies were conducted along a moist conductor only, so that if a part of the conductor of the pile be dry, and the remainder sufficiently moist, the substance experimented upon does not traverse the former, but only the latter. It may be remarked en passant, that as all those portions of the conducting circle, formed either by the needles or by the skin alone, are supposed to be perfectly dry; that there would be but little possibility of the substance operated with, passing in the direction of this portion; for as we have mentioned, this transmission takes place only when the conductor is moist. But it is positive that the electric current circulates through the different organs into which the needles are inserted, as far even as the extremities of the needles. We may account for the occurrence of this phenomena in the following manner. The whole tract of the needles is imbued with a sufficient degree of moisture, derived from the fluids which circulate in all the tissues, and which are saline or alkaline in their nature, to cause an attraction of the electric current towards them. This moisture, moreover, from its alkaline properties is one of the most powerful conductors we could possibly make use of. Whenever we wish to operate with a substance of a compound nature, an acid for example, we should make use of a pile of feeble energy, that is to say one composed of but few plates, and these of a small size. If we use a powerful one the substance will be decomposed, and we transmit not the substance itself, but its elements. We may operate in this way when we wish to destroy by degrees an exuberant tissue, by means of the nitrate of potash. A simple current would be sufficient to disengage the acid from its base, and cause it to pass over to the part operated upon. Another inconvenience likewise attends the application of too powerful a current. The quantity of electricity that passes over in this case, may be sufficient to communicate a fatal shock to the part; and if needles are used, their extremities may be heated to incandescence, and thus cauterize more or less deeply the parts into which they are inserted. Dr. Fabré-Palaprat, aware of this, has frequently applied a strong electric current to the needles inserted into a part in which he wished to produce the effects of a moxa.

39. *Influenza at Berlin.*—Dr. Hufeland, in the March number of his Journal, alludes to the then prevailing epidemic influenza, or grippe, which subsequently, as all our home-readers well know, extended itself to this country, and spread like a broad sheet over almost every hole and corner of it. The venerable German tells us that, since the year 1782, no epidemic has been known to seize so many persons; in many places, more than one-half of the inhabitants were affected with it. Both arose in Russia, and followed a south-westerly direction; both made a sudden invasion on a vast number of people in a place at the same time; both were of short duration, and were comparatively little dangerous; both affected chiefly the mucous membranes and nervous system; and in both blood-letting and depletory measures were hurtful. In Petersburg, there were at least 100,000 invalids; in Memel, whose population does not exceed 10,000, there were 8,000; and in Berlin, at the date of Hufeland's writing, upwards of 50,000 had been seized. It may be considered as a catarrhal fever, accompanied with, and followed by, extraordinary depression of the nervous energy for several weeks after the pyrexia has ceased. Mild antiphlogistic treatment and gentle diaphoretics have, in most cases, been sufficient to cure it, even in this "*blood-thirsty age*" of ours.

A correspondent from Konigsberg adds a few interesting remarks on the epidemic, as witnessed by him there. The winter had been unusually healthy up to the end of the first, or the beginning of the second week in March. The writer, as well as some other physicians, had, indeed, remarked that there had been, for some time previous, a tendency in most febrile complaints to a nervous or adynamic type; and this is quite in accordance with the history of other epidemics, as, for example, of the cholera: the influence of the stormy cloud is felt, before it breaks in its full sweeping force. The symptoms were at first smart pyrexia, with very severe head-ache, sneezing, sore throat, and violent cough, which was generally dry and harsh, at least in the beginning; the skin moist, and the tongue white. The feelings of general pain, weakness, and great depression of nervous power, were very remarkable. The fever generally abated in three or four days, but the patients were long of recovering their strength. The mortality occasioned by the disease was very trifling, if we consider the number of patients, and occurred chiefly among children, in whom bronchitis was developed. Almost every one in Konigsberg was affected with it, in a greater or less degree; some, indeed, very mildly, but still they had catarrhal symptoms. During its prevalence, other diseases were arrested, and seemed to slumber for the time; the sick lists presented nothing but influenza —influenza!! Commerce was frequently suspended, and churches had no clergymen to officiate in them. In the course of the second week, the disease became less severe; in some the fever was absent—in others the head-ache, or the sore-throat, or the cough, and so forth; but such patients were often much longer indisposed than those who had sustained a smarter attack during the first week; whether this arose from their taking less care of themselves, or whether the "potentia nociva" required a certain time for its maturation in, and expulsion from the system, we cannot say. In the third week, the number of cases was very much diminished, and so disarmed now was the disease of its violence, as to receive the appellation of "grippine," a diminutive of "grippe;" in the fourth week, scarcely any new cases were seen. The mortality may be estimated by the following table:—We should premise that the average weekly mortality at Konigsberg is from 40 to 50 in summer, and from 50 to 60 in winter.

Deaths from 8th to 15th March - - - -	43
——— from 15th to 22d - - - -	72
——— from 22d to 29th - - - -	105

The last is a greater number than has been known for many years, except when the cholera was raging. During the epidemic influenza of 1831, the highest number of deaths in a week was 96.—*Med. Chirurg. Rev. Oct.* 1833.

AMERICAN INTELLIGENCE.

Trial for Infanticide. By Isaac Thomas, M. D. of Westchester, Pennsylvania.—Hannah Hall was indicted for murdering her infant illegitimate child, also for concealing its death, and had her trial in the Court of Oyer and Terminer for the county of Chester, July session, 1833, before the honourable Isaac Darlington and his associates.

Hannah Hall was twenty years old; had never been married. The child was begotten on the 22d of July, 1832, and born on the night of the 17th April, 1833; being nine months, lacking five days. On the 15th of the same month, she ran some distance across a meadow, and on the 16th did an unusually large scrubbing, washing, and ironing. Persons were up in her room shortly before and after the birth, so that it was known that the child was killed or died as soon as born. By feigned pretences for her sickness, she deceived the family with which she lived; and as to her pregnancy, they did not suspect it, or at least did not think her time of delivery was near at hand. She concealed the body in a band-box in her room. It was wrapped in a calico frock, and covered over with other articles of dress. The season was dry and favourable to the keeping of a dead body. On the 22d of April it was discovered, and on the 23d an inquest was held. Drs. Andrew Wills, George Thomas, and Isaac Thomas were in attendance under the direction of the inquest, and examined the body. While the examination was proceeding, Hannah confessed to the inquest, and it was not deemed essential to proceed with the examination; but the physicians made what was considered a partial one, for their own satisfaction. The following is the substance of their testimony before the jury at her trial.

The body presented the appearance of a healthy full grown child. The head was well covered with hair, and the nails on the fingers and toes were perfectly formed; hence it was not deemed necessary either to weigh or measure the child, as is recommended by medical jurists where appearances are equivocal. The mouth and eyes were closed. Not the least appearance of putrefaction was to be discovered in any part of the body. The placenta had been removed when the child was discovered, it being very offensive; the umbilical cord having been separated eight or nine inches from the body. The skin was abraded in a few spots on the right cheek, such as might have been caused by the mother's nails, when assisting the parturient efforts. A ligature composed of two pieces of silk ribbon tied together, had been passed twice round the neck, and tied in a bow-knot in front. There was a band of flesh between the turns of the ribbon, which was tumid and discoloured. The ligature had been drawn very tightly, so as to press deeply into the flesh. The tumid portion was of a dark-red colour, presenting the appearance of ecchymosis or vascular turgescence; though some of the jurors and others spoke of its being of a different colour. It was not cut into to ascertain its true character, but was believed to be the result of circulation after the ligature was passed. The face and neck above the ligature were slightly discoloured, differing in appearance from the rest of the body. A pretty free discharge of meconium covered the nates of the child and the cloth upon which the child lay, unmixed with any other discharge. When the ligature was removed, the skin immediately under it in the depression, was of a pale colour, as if the blood had been forced out. The chest was opened in the usual manner, and found to be pretty fully occupied by the lungs. They presented a uniform rosaceous appearance, and were

not discoloured in spots. The condition of the diaphragm was not particularly noticed. The usual hydrostatic test was then resorted to. The lungs and heart together were placed in spring water of the ordinary temperature. The whole mass floated lightly on the surface. The lungs were then separated from the heart and placed in the water and floated lightly. They were cut into pieces, and pressed to the bottom of the vessel, but rose immediately to the surface, like a cork, when let go from the fingers. The heart and a portion of the liver were found to sink. The lungs crepitated distinctly when pressed between the fingers. When pressed, a frothy mucus issued from the air-cells where they had been divided with the knife. They were not pressed between the folds of a cloth to ascertain whether they were buoyant from gas having been generated by the putrefactive process, as there was no appearance of putrefaction in any part of the body. The lungs are admitted by all to be the last to pass into the putrid condition. Neither the heart, brain, nor any of the other viscera were examined. Neither was the aorta or cavæ tied before the lungs and heart were removed, not supposing that any important inference could be drawn from an examination of the heart where death occurred so soon after birth. Neither was the ductus arteriosus nor ductus venosus examined, for the same reason. A further examination did not take place, in consequence of the jury of inquest being satisfied by her confessions.

Drs. Andrew Wills and Isaac Thomas were of opinion that respiration had taken place, from the appearance of the lungs, and that the arterial circulation had gone on after the ligature had been passed round the neck, from the tumid and discoloured appearance of the portion of the skin that was contained between the two bands of ligature, and that the ligature had been the cause of death. They admitted the possibility of respiration before complete delivery, at which time a ligature might be passed round the neck. They also admitted the possibility of intra-uterine respiration in assisted labour, and not without. They believed that exercise sufficient to destroy the child in utero, at a period so far advanced, would endanger the life of the mother.

Dr. George Thomas had not formed a judgment as regarded the death, but believed that respiration had taken place, and that circulation had gone on after the ligature was passed. All believed that the ligature would not have caused the appearance that was exhibited, had it been placed after death. All admitted that the hydrostatic test was not sufficient to rely upon, where other circumstances did not concur; that medical jurisprudence, in reference to infanticide, was yet involved in difficulty.

The counsel for the prisoner presented Dr. Wilmer Worthington in evidence, who had not seen the child. He testified, that were he called to examine a case of infanticide, he would proceed in the order recommended by the best authorities. He would measure the child from the umbilicus to the head and to the feet, ascertain its weight, and go into a full examination of the brain and all the viscera of the chest and abdomen. The lungs may float from artificial respiration and putrefaction. A child may breathe before full birth. The trachea should be opened to see whether the sides were compressed, or whether there was not some foreign substance within it. The foramen ovale should be examined to see if it was closed; if so, the child must certainly have lived. The ductus arteriosus and venosus should be examined for the same reason. The left auricle and ventricle should be examined, as they would be empty in case of strangulation. In death from that cause, the colour of the lungs would not be rosaceous. The abdominal viscera should be examined to ascertain if aliment had been taken. The brain should be examined to see if there was congestion. Tumefaction may arise from putrefaction. In a case of life and death, all tests should be resorted to. The hydrostatic test is in discredit. It is a safe test when other things concur to corroborate it. Discoloured portions should be cut into to discriminate between ecchymosis and suggillation. In the former case the vessels would be ruptured, in the latter not.

The court directed the jury to disregard the confessions of the prisoner, as subsequent testimony was given to show that they were made upon importu-

nity, and under the expectation of favour. Verdict, not guilty of the murder; guilty of concealing the death.

Westchester, Chester County, October 17th, 1833.

New Remedy in Intermittent Fever. By W. A. Gillespie, M. D.—The following pill, the composition of which I learned from one of the physicians of the Baltimore Infirmary, has been very successful in my hands. I wish therefore to communicate it to the faculty for further trial. After premising the necessary evacuations the pill is to be given precisely an hour and a half before the regular expected return of the chill. This remedy in my hands has succeeded in a number of cases, in some where bark had been tried in vain; though I am unwilling to place that confidence in it yet, which it seems entitled to, until it is further administered under every variety of circumstance. An eminent physician has informed me that he has succeeded in arresting the paroxysms thirty-nine times in forty. My success has not been equally great, but sufficient to excite an interest in the remedy which I wish to be tested by all practical observing physicians:—℞. Camphor, ij. grs.; opium, iss. gr.; calomel, v. grs. Fiat pillula to be given as above.

From my observations the paroxysms are not more liable to return, if as much so, as when they are checked by bark or quinine. It has succeeded in quotidians, tertians, quartans, and irregular intermittents.

In addition to this I can add that I shall not attempt to explain the modus operandi of the remedy, but it is probable that a greater impression is made on the nervous system by it, than by the miasmata which produce intermittents; thus breaking up that associative periodical train of symptoms which constitute intermittent disease.

I have prescribed this pill in intermittent neuralgia with success.

Louisa, Virginia, December 15th, 1833.

Case of Œsophagitis. By John B. Zabriskie, M. D.—Sarah Daniels, aged thirty-five, corpulent, of a sallow complexion, with dark hair and eyes, had been suffering under amenorrhœa for seven months. For this she had taken much medicine, and among the rest a large dose of calomel, which had salivated her profusely. According to her own account, she had suffered greatly from excessive salivation for more than two months. On the 9th of June she entered the alms-house. She then complained of considerable difficulty of breathing, of soreness of the gums, of a painful swelling of the left ankle, of loss of appetite, but principally of great difficulty of swallowing. She described a sensation of a tumour pressing upon the œsophagus, which in a great degree prevented swallowing. Food would appear to descend as far as the obstruction, but could not pass it, and would be immediately brought up. Some mild drinks she swallowed with less difficulty, but still every act of deglutition gave her pain. This difficulty was greater at one time than another, and she described the apparent obstruction as being at one time nearer her throat, and at another lower down. There was no febrile excitement; the skin was cool, the tongue moist and clean, the pulse regular.

The absence of febrile excitement, the apparent motion of the obstruction, and the amenorrhœa, made me suspect an hysterical affection. Asafœtida was administered without effect, a blister was then laid over the sternum, and a dose of magnesia given. She felt somewhat relieved after this, and said the obstruction had moved further down. She could now swallow without much difficulty any mild fluid aliment. She soon after this complained of tenderness of the epigastrium, pain upon pressure, and thirst. This was succeeded by diarrhœa and vomiting, especially upon taking any drinks. She gradually grew worse till the 23d, when she expired.

Autopsy four hours after death.—The body presented no emaciation, the cellular substances being every where filled with fat.

The lungs adhered in many points, and were filled with dark green spots of

different sizes, from that of a pin's head to the size of a hazle-nut; the bronchi contained a purulent fluid, which was in the greatest abundance in the large tubes next the trachea; the heart was of natural size, and covered with a great quantity of fat; the œsophagus contained a fluid having the colour and consistence of pus; the vessels of the mucous membrane were highly injected with blood, and the anterior part of the tube near the arch of the aorta, which was the point where she complained most of the obstruction, was completely disorganized, and for the length of nearly two inches, could be pressed into a pulp with the fingers; in several places in this part, the tube was perforated, and there appeared to be a slight infiltration of the purulent fluid contained in the œsophagus into the cellular membrane surrounding this part. From this point the redness spread through the whole stomach and duodenum, the vessels of both being very fully injected with blood, and the mucous coat was so tender in many places that it could be scraped off in a soft pulpy mass. Below the duodenum the mucous membrane presented its natural colour. The spleen was very much thickened. The uterus was of natural size, but the ovariæ were very small, having a shrivelled appearance.

It appears that the difficulty of deglutition was produced by the irritation of food passing an inflamed portion of the œsophagus, and which caused a sensation exactly similar to that of a tumour pressing upon this part.

The disease it is evident was in the first place œsophagitis, and the inflammation afterwards extended to the stomach, causing the tenderness of the epigastrium. This case shows how great a lesion may exist in some part of the alimentary canal, without febrile excitement or pain, except when irritated. It also shows the difficulty of distinguishing between a spasmodic stricture of the œsophagus, and an inflammation. And may not those strictures called spasmodic in most cases be owing to this cause, that some portion of this canal is inflamed.

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Case of Amnesia cured by Cupping. By John B. Zabriskie, M. D.—Patrick Hart, aged 45, of a thin, spare habit, phlegmatic temperament, who had been very intemperate, had been troubled for a long time with a loss of memory, frequently forgetting the most common things occurring to him. He would often leave part of his clothes in the field where he had been at work, or in the road, and could not remember where he had left them. In conversation he would repeat the same thing several times, and often would forget what was told him, so that frequently he would appear almost like an idiot. As he complained of pain and distress in his head, cups were applied to his temples, which relieved the pain. About three weeks after this he again came to me, stating that his memory had been much better since he had been cupped, and requesting that this might be repeated. It was accordingly done, and since this he has frequently told me that he could remember as well as ever he could, and his companions have also assured me that his memory was restored.

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Tables exhibiting the number of white Persons in the United States, at every Age, deduced from the last Census. By J. Ingersoll Bowditch.—*Table I.* This table exhibits the number of white persons in the United States, in classes, as given by the last census.

Table II. The object of this table is to show the number of white persons living, at every age, in the United States. It is deduced from Table I. by interpolation for every 10 years, from 20 to 100. Below 20 years the numbers are irregular, and we have therefore used the total number from birth to 19 years, without reference to the four classes into which it is divided. This irregularity renders it impossible to form a satisfactory table for these years; but if the present method of enumeration be continued with more minuteness in the ages below 20 years, we shall probably acquire sufficient data to form more accurate tables of mortality for this country, than any now extant.

From this table the expectation of life might be ascertained, provided the

number of inhabitants did not vary; but it has been found from the enumerations made within 40 years, that there has been an annual increase of about three per cent. If we apply to the numbers in Table II, above 20 years, a correction for this increase, the expectation of life will be nearly as follows:

Age.	Exp.	Age.	Exp.
20	36.32	60	15.79
30	32.20	70	9.52
40	28.21	80	4.96
50	21.77	90	2.34

which numbers agree nearly with the tables by Dr. Wigglesworth.

TABLE I. *Containing the Number of White Persons in the United States, according to the Census of* 1830.

Under	5	years of age		1,892,298
Of	5	and under	10	1,534,286
"	10	"	15	1,310,751
"	15	"	20	1,173,527
"	20	"	30	1,868,564
"	30	"	40	1,148,161
"	40	"	50	724,795
"	50	"	60	453,428
"	60	"	70	265,776
"	70	"	80	116,170
"	80	"	90	33,517
"	90	"	100	4,477
"	100 and upwards			508
				10,526,058

TABLE II. *Exhibiting the Number of White Persons living, at every age, in the United States, deduced from the Census of* 1830.

Age.	Number of living persons.	Age.	Number of living persons.	Age.	Number of living persons.	Age.	Number of living persons.	Age.	Number of living persons.
0	431,597	20	227,744	40	87,073	60	33,661	80	4,593
1	368,820	21	217,843	41	83,609	61	31,860	81	4,189
2	342,495	22	208,304	42	80,232	62	30,151	82	3,918
3	328,995	23	198,988	43	76,904	63	28,530	83	3,650
4	319,185	24	190,033	44	73,708	64	26,956	84	3,424
5	310,815	25	181,305	45	70,557	65	25,470	85	3,198
6	303,795	26	172,934	46	67,543	66	24,121	86	2,973
7	297,675	27	164,833	47	64,574	67	22,861	87	2,749
8	292,410	28	157,047	48	61,692	68	21,645	88	2,524
9	287,865	29	149,533	49	58,903	69	20,521	89	2,299
10	283,410	30	142,334	50	56,161	70	19,168	90	1,523
11	279,090	31	135,405	51	53,551	71	17,594	91	1,013
12	274,815	32	128,788	52	50,986	72	15,793	92	674
13	270,495	33	122,443	53	48,555	73	13,857	93	448
14	266,130	34	116,459	54	46,170	74	12,014	94	298
15	261,720	35	110,834	55	43,877	75	10,258	95	198
16	257,265	36	105,387	56	41,625	76	8,682	96	132
17	251,910	37	100,259	57	39,511	77	7,333	97	88
18	245,160	38	95,398	58	37,486	78	6,208	98	59
19	237,015	39	90,854	59	35,506	79	5,263	99	44
	Of 100 years and upwards - - - - - - - -								508
	Total number - - - - - - - -								10,526,058

A Case of Peritoneal Inflammation occupying the Left Horn of the Uterus, the Bladder, and a portion of the Rectum; in which Air was repeatedly expelled from the Urinary Bladder. By Charles Hall, M. D.—The subject of this case was Mrs. J. C. S. a young woman, of sanguineous temperament, though of rather delicate constitution, aged twenty years. She was confined with her first child, November 5th, 1831, after a severe and protracted labour, though there was nothing irregular in the travail, nor preternatural in the delivery. Previous to this period she had for more than a year complained of frequent pains in the left iliac region, which at times streaked down the left thigh and leg. These pains continued with more or less severity, (as she afterwards informed me,) up to the time of her labour—having had no medical application for the complaint. She had also been attended with costiveness and head-ache, for which she had occasionally been bled and taken some light cathartic medicine.

The first knowledge I had of the pain in the left hypogastric region, was two weeks subsequent to her confinement, when it seemed to take on the character of *hæmorrhois*, which at that time I attributed to the uncommon severity of the parturient throes, having continued, with little abatement, for fifty-two hours. No laceration or violence, however, attended the result. Yet it was reasonable to conclude, not having a previous history of the acute pain in this region, that from the almost incessant rush of blood to the hæmorrhoidal vessels, an engorgement had taken place and occasioned the present exigency. Hence, I made use of the ordinary means resorted to in *hæmorrhois*. These, indeed, seemed to allay the pain and suffering; but on the 28th of the same month I was called again on account of this affection. I now learned, for the first time, the chronic nature of the disorder. I directed fomentations to the part, and calomel as a cathartic. These, for a time, greatly relieved the keen distress and cruel suffering of the patient. For several days the pain was kept in check by the daily administration of a Dover's powder.

December 18th.—I was called again; the pain of the left side and limb having developed itself in a more determined and prominent character. Had recourse to manual examination—found the parietes of the abdomen, in the vicinity of the pain, rigid, and acutely sensible to the touch. Perceiving the inflammatory nature of the complaint, I let blood from the arm, gave another cathartic dose of calomel, and applied a blister to the local disease, being about midway between the *linea alba* and the superior anterior spinous process of the ileum. Though the febrile action and local pain yielded in some degree to this treatment, the affection appeared, nevertheless, fixed and obstinate. I resorted to depletive and discutient measures to reduce the inflammation; such as general bleeding, leeches, scarifying and cupping, liniments, &c. These were continued until the 3d of February, 1832, when it became manifest that an abscess was formed beneath the integuments of this part of the abdomen.

During the formation of this abscess, there was difficulty in passing the fæces, which, however, did not amount to a total obstruction at any time. But the difficulty was much greater in voiding the urine. In respect to this evacuation, there was, at times, an entire inability to pass the urine, requiring repeated attempts to effect the object. At such times, the flow of urine ultimately succeeded to an abrupt escape of air from the bladder. I was at first incredulous as to the occurrence of this incident, but the enlightened and intelligent matron who attended the patient, dispelled all doubts and assured me of the fact. This collection of air was undoubtedly the result of a morbid secretion from the vascular system in the part, not unlike the cases recorded of similar secretions into other cavities, but I have no knowledge of such an occurrence, before this, in regard to the *urinary bladder*.

The previous examination, as well as the diagnostic symptoms of the case, left no doubt as to the pathology of the tumour, that it embraced the peritoneal covering of the left side of the womb, the bladder, the parietes of the abdomen, and, posteriorly, the rectum; embedded, as it were, in the cellular tissue connecting these organs.

After the broad, hard surface externally had become somewhat elevated, and had given place in its centre to a small compressible space, and after due consultation with my medical brethren, Drs. Chandler and Berry, I punctured the abscess with the common abscess lancet. About half a pint of thick pus was discharged, to the great relief of the unhappy sufferer. The orifice was closed with an adhesive strap. The third day it was reöpened, and a small quantity of matter escaped; after which the incision healed, and the lady soon recovered. She has since given birth to another child, without any bad consequences.

The most remarkable feature in this case is the expulsion of air through the urethra. The abscess may serve to some as a practical lesson; yet almost every practitioner of long experience has doubtless witnessed similar occurrences.

St. Albans, December 4th, 1833.

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Notice of a curious Case of Somnambulism. By E. Bartlett, M. D. (Extracted from a Letter to the Editor.)—Between three and four weeks ago, I had the pleasure of seeing the Springfield somnambulist, accounts of whom you have probably seen in the newspapers. The extraordinary part of the case consisted in the marvellous susceptibility of the eye to its natural stimulus. I played a game of back-gammon with the girl during one of the paroxysms. She saw perfectly well—calling her throws of the dice, and moving her pieces regularly—through several thicknesses of a white handkerchief bound closely over her eyes. She could read, in a room lighted in the usual manner, with *eight* folds of a linen handkerchief over her eyes. These facts are perfectly certain.

In other respects the case resembled many that have been reported; as, for instance, in her not remembering during her lucid intervals any thing which occurred during the paroxysms, though she recollected during one paroxysm occurrences which had taken place in preceding ones. During the paroxysm there was determination of blood to the head, and head-ache. The menses were suppressed. When I saw her, she was under the care of Dr. Woodward, the intelligent and scientific physician of the State Lunatic Asylum, at Worcester. I consider the case one of great physiological and pathological interest, as showing with what an inconceivably small quantity of light it is possible for the eye to perform its functions. We hope to have an account of the case from Dr. W. for the Medical Magazine.

It occurred to me, after finishing my letter, that this short notice of the case might interest you. I see, by the papers of yesterday, that the girl is cured.

[We look with great anxiety for the promised account of this interesting case.]—Ed.

—

Case of Pityriasis Rubra cured by Chloride of Lime. By John B. Zahriskie, M. D.—Martha Lewis, aged 61, of a melancholic temperament, slender make, rather hypochondriac, and frequently suffering from a slight derangement of her intellect, found an eruption upon her arms and legs, characterized by a slight elevation of the cuticle, of a red colour, and covered by small whitish scales. They increased, running in a tortuous or serpentine form, covering the skin of a considerable part of her arms and legs, and itching very much at night. The colour was darker in the day time, being nearly purple, but when warm in bed they were of a much brighter red, were more swelled, and were very troublesome. The appetite and general health continued unimpaired. For this she used saline purgatives, sulphur internally and externally, the decoction of bitter sweet, the tincture of iodine, warm baths, the decoction of the woods, mercury internally and externally, and lastly the solution of the chloride of lime externally as a lotion. As soon as she used this last, the eruption began to improve and soon to disappear. It relieved the heat, itching, and other troublesome symptoms immediately. There now remains only some slight discoloration of the skin.

Note from Dr. W. C. Wallace, *of New York, relative to the Anterior Membrane of the Eyeballs.*—After Dr. Wallace's communication was printed off, (see p. 404 of this No.) we received the following postscript.

"P. S. That the conjunctiva is covered with a peculiar cuticle I have no doubt. In some cats the membrana nictitans is edged with black. Where the conjunctiva joins the eyelids there is the same colour. When this coloured portion is scraped off after being heated, the conjunctiva appears entire beneath it. The cuticle covering the conjunctiva seems entitled to the description usually given of the conjunctiva. It appears to communicate with the general epidermis, and to cover the conjunctiva and the cornea. It seems thicker and more transparent over the cornea than elsewhere."

—

Beaumont's *Experiments on Digestion.*—It is probably known to most of our readers that Dr. Beaumont of the United States' Army has been taking advantage of an opportunity afforded by a soldier who has a fistulous opening into his stomach, to institute a series of experiments on digestion. We are happy to announce that Dr. B. has published an account of these experiments. We did not receive a copy of the work, however, until too late to prepare for this number such a review as the importance of the subject, and the valuable nature of the experiments required. It will be fully noticed in our next.

—

Bourgery's *Treatise on the Minor Surgical Operations.*—A translation of this useful work, with notes and an appendix, by Drs. Roberts and Kissam, of New York, has just appeared. It should be in the hands of every student.

—

Wood and Bache's *Dispensatory of the United States.*—The favourable opinion we expressed of this work has been confirmed by the verdict of the profession. A new edition has been called for within less than a year from the publication of the first.

—

Tuson's *Dissector's Guide.*—Messrs. Allen and Ticknor, of Boston, have republished this excellent little work, with additions by Dr. Lewis, demonstrator of anatomy in the medical school at Harvard university. We shall notice it more particularly in our next.

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Dartmouth College.—The number of students in November last, was, in the classical department, 156; attending the medical lectures, 100.

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Transylvania University.—The medical class, during the present session, amounts to 260.

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Berkshire Medical Institution.—The number of students, in November last, was 104.

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